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A QUALITATIVE STUDY OF TEACHER RETENTION IN PROJECT-BASED LEARNING SCHOOLS

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A QUALITATIVE STUDY OF TEACHER RETENTION IN
PROJECT-BASED LEARNING SCHOOLS

By

ELIZABETH CAMILLE BIELLING

A doctoral dissertation submitted to the
College of Education
in partial fulfillment of the requirements
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PROJECT-BASED LEARNING SCHOOLS

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DEDICATION

I would never have made it this far without the unwavering support of my family and friends. The past three years have been tumultuous, hectic, and full of changes. I have been so blessed by the love and encouragement of my “people”. This dissertation is dedicated to my village, without whom this would not have been possible.

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ABSTRACT

The purpose of this study was to determine factors influencing teacher retention in project-based learning (PBL) schools. Ascertaining these factors and devising a list of best practices could aid both PBL and non-PBL schools in bolstering their schools' teacher retention rates. School administrators could examine the research to extrapolate specific practices that would benefit the unique culture of their schools. This mixed-methods study utilized a survey and interviews to address the two research questions. Themes that emerged from interviews with current PBL teachers were colleague interactions, administrative support, student interactions, autonomy, and motivation. Themes emerging from interviews with PBL school administrators were relationships and autonomy. Last, themes emerging from interviews with former PBL teachers were motivation, student interactions, colleague interactions, and benefits. By examining the themes associated with PBL teacher retention, administrators can devise best practices to positively influence teacher retention within their individual schools.

Keywords: retention, attrition, project-based learning, autonomy

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I. INTRODUCTION

Teacher attrition has been a pressing issue within the field of education for many years (Kelchtermans, 2017). High rates of teacher attrition have become costly, affecting every state within the United States (U.S.) (Hughes, 2012). Hughes (2012) and Glazer (2018) estimated that nearly \$2.2 to \$7 billion is spent annually hiring replacement teachers. The 1994 Secretary of Education, Richard W. Riley, predicted that United States schools would need to hire two million new teachers to fill teaching positions left empty by retiring teachers (Shaw & Newton, 2014). Between 1994 and 2004, United States school administrators hired approximately 2.25 million teachers; however, within the same ten years, the United States lost 2.7 million teachers (Shaw & Newton, 2014). Therefore, the discrepancy of 450,000 teachers who have left their teaching positions demonstrates the challenge schools face as administrators try to recruit and maintain a full faculty and staff.

The discrepancy between the number of teachers hired and the number lost is a public concern. School administrators work diligently to replace teachers, but the effort is often in vain due to higher rates of teacher attrition. Hughes (2012) found teacher attrition estimates range from 20% to 50% of teachers leaving within the first five years in the profession. Teacher turnover rates increase each year; and, reports from schools across the U.S. indicate that turnover occurs more often during the school year, rather than during summer breaks (Redding & Henry,

2018). School administrators are often unable to build and maintain a consistent staff of teachers due to the high rate of attrition among teachers. A lack of teacher retention is detrimental to the overall success of schools, students, and educational organizations. Lack of retention is detrimental due to the inability of school leaders to maintain consistent staffing and focus upon necessary day-to-day operations (Kelchtermans, 2017).

Project-based learning (PBL) is a non-traditional methodology of education involving an active and student-centered approach to learning (Choi, Lee, & Kim, 2019). Choi and his fellow researchers (2019) argued that a learner-centered methodology is vital for students to learn cooperation, independent thinking skills, negotiation, collaboration, and communication. The skills proposed by Choi and his colleagues (2019) are deemed as necessary twenty-first century skills. Bell (2010) stated that twenty-first century skills are necessary in an age in which computers and technology have become the primary sources of information and assessment. The PBL approach to education is often centered around a real-life problem-based inquiry (Yadav, Subedi, Lundeberg, & Bunting, 2011). Project-based learning, as a teaching methodology, is an approach through which teachers provide students with real-world, authentic problems, as well as the resources needed to construct their own solutions and conclusions (Voet & De, 2018). The projects within PBL vary according to the different questions or problems.

PBL schools are established based on the notion of projects as the primary assessment tool and source of student achievement data. Joham and Clarke (2012) described project-based learning as a cycle that begins with the introduction of the problem-based inquiry. Students are placed into collaborative groups to conduct research and ideate potential solutions to the problem-based inquiry, or problem. Students, then, identify knowledge gaps and attempt to fill

these gaps through self-directed research and analysis. Last, students re-evaluate the gathered information and refine the previous ideations as possible solutions to the problem-based inquiry.

The main aim of PBL is to enable students to develop specific content knowledge as well as metacognitive skills. The teacher often aligns a project to coincide with students' personal experiences and backgrounds. To fill knowledge gaps, students may meet with local experts, video conference with individuals across the country, read and examine texts, and go on field trips to conduct observations (Amesty & Paez, 2018). Another aim of PBL is to ensure students' learning extends beyond the four walls of the classroom. Analysis of problems and the development of appropriate solutions demonstrate the increased responsibility of students (Joham & Clarke, 2012). Students must be self-disciplined and able to self-direct the course of the learning process.

Goodin, Bartos, Caukin, and Dillard (2014) found that the PBL model benefits teachers. Project-based learning allows teachers to teach to different learning styles and provides teachers a sense of control over their own instruction, in that teachers are often empowered to develop their own lessons and curriculum ideas. Anita and Judit (2016) conducted a study on PBL through which they discovered teachers prefer group-work methodologies, like PBL, as well as cooperative learning. Additionally, Mirici and Uzel (2019) spoke with teachers who reported increased self-confidence and motivation after implementing PBL within their classrooms.

The project-based learning model has been found to have a positive effect on teacher self-efficacy (Choi et al., 2019). Choi and his colleagues (2019) define self-efficacy as a teacher's beliefs about his or her ability to teach the subject matter to students and garner desired student outcomes. Self-efficacy plays an important role in determining a teacher's feelings toward the profession (Choi et al., 2019). Additionally, teacher self-efficacy has been found to be

associated with student achievement, student behavior, and teacher retention (Choi et al., 2019). Thibodeaux, Labat, Lee, and Labat (2015) found that effective teachers can account for 33% of student achievement gains. Because PBL has been shown to increase student engagement and interest, there is a positive correlation between PBL, student engagement, and teacher self-efficacy (Choi et al., 2019). When teachers find satisfaction within their jobs, other individuals within the school benefit; co-workers will be able to engage in collaborative work, administrators will not worry about attrition, and students will be more likely to succeed academically (Thibodeaux et al., 2015).

Background

Due to the high rate of teacher attrition, recruiting and retaining teachers have become of national concern (Roegman, Pratt, Goodwin, & Akin, 2017). Attrition refers to the departure of qualified teachers from the teaching field due to reasons other than retirement; conversely, retention refers to maintaining teachers within the field of education (Kelchtermans, 2017). Teacher turnover, or attrition, refers to both moving to another school, as well as to leaving the profession altogether. Teacher attrition is an economic, social, and educational concern that affects a wide range of groups, both in and out of the classroom (Long, McKenzie-Robblee, Schaefer, Steeves, Wnuk, Pinnegar, & Clandinin, 2012).

The teaching occupation is one of the more stressful fields in America when compared to other occupations (Harmsen, Helms-Lorenz, & van Veen, 2019; Hughes, 2012). Geiger and Pivovarova (2018) cite low salary, quality of teacher preparation programs, workload, and working conditions as the primary reasons for attrition. According to Helms-Lorenz, Maulana, and van Veen (2018), teachers cite lack of administrative support, unrealistically high job demands, lack of professional development and learning opportunities, unfavorable working

conditions, student behavior, stress, and lack of job satisfaction as reasons for attrition. Additionally, negative factors can also lead to emotional exhaustion, further exacerbating the problem of teacher attrition (Helms-Lorenz et al., 2018). Teacher stress is defined as experiences of negative emotions that result from varying aspects of the job (Harmsen et al., 2018).

Across the United States, school administrators have worked to tackle the challenges associated with filling empty teaching positions and maintaining a staff of highly qualified teachers (Carver-Thomas & Darling-Hammond, 2019). A highly qualified teacher is defined by Berry, Hoke, and Hirsch (2004) as a teacher with strong subject-matter and pedagogical knowledge. In a study on teacher turnover, Carver-Thomas and Darling-Hammond (2019) found that the high rate of teacher attrition is the leading factor contributing to teacher shortages within the United States. Attrition accounts for nearly 90% of teacher demand annually (Carver-Thomas & Darling-Hammond, 2019). Additionally, only one-third of attrition can be attributed to teacher retirements. Teacher turnover and attrition often result in school administrators hiring inexperienced and underqualified teachers. School administrators also may increase class sizes or remove class offerings to ease the burdens associated with a lack of teachers (Carver-Thomas & Darling-Hammond, 2019). The negative attrition outcomes all negatively impact student learning (Carver-Thomas & Darling-Hammond, 2019). Lastly, teacher attrition can hinder schoolwide instructional improvements and collaboration between teachers (Carver-Thomas & Darling-Hammond, 2019).

Student Performance

Teacher attrition is one of the leading factors contributing to the shortage of effective teachers within the United States (Geiger & Pivovarova, 2018). Attrition has negative long-term

effects, impacting the educational outcomes of students (Martinez et al., 2010). Attrition of teachers decreases instructional stability and consistency. Reduction in continuity negatively impacts students' ability to learn and develop at the expected rate (Kelchtermans, 2017).

Kelchtermans (2017) found that teacher attrition increases the likelihood of students being taught by inexperienced and underqualified teachers, thus potentially impacting students' ability to proceed at the appropriate rate academically. When a teacher leaves employment, a replacement is not always immediately provided, and a substitute teacher is placed within the classroom.

Although a substitute is an appropriate stand-in for short periods of time, a substitute is not always able to provide adequate and effective instruction for all students and across all content areas (Kelchtermans, 2017). Oftentimes, substitute teachers are not certified, trained, or skilled to handle classroom instruction effectively. Borman and Dowling (2008) discovered that being taught by a highly effective teacher versus an underqualified teacher can make the difference between a full grade level of achievement in a school year.

Staff Morale Impact

High rates of attrition do not solely impact administrators and students; the consequences also impact existing highly-qualified and motivated teachers. In addition to existing roles and responsibilities, experienced teachers provide support and training for incoming newly hired teachers (Sass, Seal, & Martin, 2011). As the more experienced teachers spend time training and guiding new teachers, less time is available to handle and complete job responsibilities. As a result, seasoned teachers no longer have adequate time for professional development, lesson planning, and grading. The stress from taking care of existing job responsibilities is further

compounded by the additional work incurred because of the continuous mentoring of new and often inexperienced teachers (Sass, Seal, & Martin, 2011).

Administrative Stress

Teacher attrition has a negative impact on school administrators. The costs of finding, recruiting, and hiring replacements for teachers necessitate the reworking of budgets to cover the costs associated with hiring (Swars, Meyers, Mays, & Lack, 2009). School administrators must rework school budgets to front the cost of hiring new teachers (Swars et al., 2009). According to Swars and his colleagues (2009), when school budgetary changes occur, other areas, such as arts or grounds maintenance, lose partial or full funding. Additionally, administrators spend time working to find substitute teachers rather than focusing on other daily duties (Swars et al., 2009).

Conceptual Framework

This dissertation study examined teacher retention rates and factors across 18 project-based learning schools in the United States. An examination of retention rates and effective retention practices is useful in developing a list of best practices generalizable across PBL and non-PBL schools. The conceptual framework of this dissertation was based on the need for effective and generalizable solutions to solve the teacher attrition problem. Three models served as the conceptual framework of this dissertation study. The first model was developed by Price and Mueller (2001). The second model came from Vagi and Pivovarova (2016). The third model was developed by Glazer (2018).

Price and Mueller 2001 Model

Sociologists Price and Mueller (2001) developed a model to examine three primary perspectives related to teacher turnover, and the model served as part of the conceptual

framework for the dissertation study. While research has been conducted to investigate the causes, consequences, and potential steps to remedy attrition, additional research is needed to identify solutions that work to reduce attrition for all schools across the country (Price & Mueller, 2001). In Price and Mueller's (2001) model, economical, psychological, and sociological variables are considered. The three variables influence teacher attrition, or a lack thereof (Price & Mueller, 2001). The intended aim of the study was to bolster retention across all types of schools within the United States.

Witt (2006) developed a dissertation study of teacher shortage, attrition, and retention around the Price and Mueller (2001) model of attrition. The study analyzed teacher perceptions in an effort to ascertain ways to improve teacher retention. Additionally, Witt (2006) hoped to identify specific practices to help teachers grow. The results of the study showed that, sociologically, supervisory support had the largest influence on teacher turnover.

Organizational Theory of Attrition

Additionally, Vagi and Pivovarova's (2016) model for attrition was utilized. In this model, Vagi and Pivovarova (2016) detailed the organizational theory of attrition, which proposes that attrition is related to the fit between a worker and the organization. An organization's culture and environment can affect an employee's job satisfaction. The organizational theory of attrition conceptual framework proved useful in examining the effect workplace environment and employer expectations can have on teacher attrition.

In a study on teacher induction as a means to achieve teacher retention, Wilson (2020) examined Vagi and Pivovarova's theory. Wilson (2020) studied varying factors and the potential impact each had on teacher retention rates. Wilson (2020) found that organizational health, or

lack of, can impact teacher retention rates. When administrators are uninvolved in teacher induction, evaluation, and training, teacher retention rates are lower (Wilson, 2020).

Self-Efficacy Theory of Attrition

The final model utilized in the conceptual framework came from Glazer (2018). Glazer (2018) developed the self-efficacy theory of attrition. The self-efficacy theory established that feelings of self-efficacy and competence have a large impact on whether or not a teacher stays within the field. If a teacher does not feel competent to execute the job, the teacher will leave. Therefore, a strong sense of self-efficacy is tied to a teacher's desire to remain within the teaching profession (Glazer, 2018).

Nygaard (2019) examined the causes of teacher burnout and attrition. Glazer's (2018) theory of attrition was utilized as an underpinning to the study. The results of Glazer's (2018) study showed that teachers often left the profession due to a lack of control. Self-efficacy plays a large role in whether or not teachers feel prepared and willing to stay within a teaching role. Additionally, Nygaard (2019) found self-efficacy also included teachers feeling unable to teach how they wanted to teach.

The Price and Mueller (2001) model, the Vagi and Pivovarova (2016) model, and the Glazer (2018) model were appropriate for this study due to the study's intended aim. The three models addressed varying aspects of teacher attrition and retention. Through the utilization of the methodologies, the researcher was able to develop a well-rounded perspective on attrition, as well as factors aiding in retention. Economical, sociological, and psychological variables, as well as organizational impacts and self-efficacy factors, are all important to consider in developing a picture of attrition and retention.

Significance of the Study

This dissertation study is significant due to the high rate of teacher attrition reported within schools across the country. The results of this study can be shared with educational leaders to inform them regarding the rationale behind teacher attrition, as well as best practices of schools with strong retention rates. School administrators could examine the research to extrapolate practices that may benefit the unique school cultures. Schools could be provided with information and strategies to implement to foster high rates of retention and bolster school district improvement as best practices are implemented across the country.

Project-based learning (PBL) schools have deviated from the traditional field of education and conventional teaching methodologies (David, 2008). Due to an increase in PBL schools, an examination of this type of school was necessary to determine if teacher retention rates were higher in this environment as compared to the traditional school model. If retention was found to be higher in PBL schools versus traditional schools, then findings from surveys and interviews may reveal practices that facilitate stronger retention rates. The intent is that findings can be generalized and applied to traditional school environments to bolster teacher retention, thus reducing teacher attrition, across the country. Therefore, the study could affect the leadership practices in schools nationwide.

Purpose Statement

The purpose of the study was to examine teacher retention rates and practices in project-based learning (PBL) schools. The study was conducted to ascertain if PBL school principals utilize specific retention practices that could be implemented in other school settings to increase teacher retention rates. A mixed-methods study, gathering both quantitative and qualitative data,

was needed to develop a list of best practices to combat teacher attrition. Schools have encountered a shortage of qualified, motivated teachers willing to remain in teaching positions for long periods of time. As a result, students, administrators, and staff are negatively impacted. Project-based learning schools are relatively new and different compared to traditional school models, such as charter, public, and private school models. The researcher hypothesized that PBL schools implement teacher hiring and retention practices that are more effective than existing practices at traditional school settings.

Overview of Methodology

This dissertation study is broadly defined as a mixed-methods research study. A convenience sample was utilized to recruit study participants. A convenience sample is defined as a pool of subjects selected because participants are easily accessible (Gall, Borg, & Gall, 1996). The convenience sample included teachers from a network of project-based learning schools across the United States. The network requested to be unnamed throughout the study; therefore, it will be referenced as a *PBL school network*. The PBL school network is the largest network of project-based learning schools in the country. Therefore, the researcher selected this network due to the large number of teachers available for study participants. Additionally, a second sample of participants was taken from the administrators and leaders of the PBL school network schools. Interview questions for teachers were taken from both the interview protocol adapted from the Zhang and Zeller (2016) study (taken with permission from authors) and the protocol from Glazer (2018) (see Appendix D). Both interview protocols had thematic overlap, therefore the questions were condensed into one protocol. Different questions were asked of administrators due to the differing job expectations and responsibilities. Administrator questions

were taken from Knight's (2012) dissertation on teacher retention (see Appendix E).

Furthermore, surveys for teachers were utilized by the researcher (see Appendix C). The survey utilized was originally intended to be utilized with male subjects; however, the researcher utilized the survey with both genders. Glazer's (2018) interview protocol for teachers who have left the profession was modified to interview teachers who have left the PBL school network (see Appendix F).

Research Design

The research design is a mixed-methods study. Data was collected through interviews comprised of open-ended questions, and a quantitative-style survey was administered to participants who are teachers. An existing survey was also utilized (Godwin, 2001). Responses were then analyzed and coded by emerging themes. The study participants were recruited from the PBL school network, which is comprised of 18 schools across the country. At the time of this dissertation study, 518 teachers were employed within PBL school network schools.

Research Questions

The following questions were utilized to guide the study:

1. How does a PBL teaching environment influence teacher retention?
2. What factors cause teachers to remain in, or depart from, project-based learning schools?

Data Collection

Data were collected through interviews and the administration of surveys. Participants for the study were administrators and teachers in project-based learning schools across the country. The schools were those within the PBL school network. Additionally, participants included teachers who have left their positions within project-based learning schools. Teachers

who left were interviewed to ascertain the reasons for attrition. The researcher utilized an existing survey comprised of questions for participants to answer. The interview questions were open-ended to allow participants to elaborate and expound upon their answers. Responses to the quantitative survey were analyzed for statistical trends and patterns. While the survey questions requested specific information, the interview questions allowed participants to elaborate and explain freely. The responses for interviews were then coded and examined to identify any emerging themes.

Procedures

The first step in the study was to conduct a thorough review of the literature related to the aim of the study. Upon completion of the literature review, the researcher obtained Institutional Review Board (IRB) approval to conduct the study. IRB approval was also obtained from the PBL school network. Potential participants for the study were identified from the staff lists at the 18 PBL school network schools in the United States. The researcher then contacted the intended study participants through their work email accounts to garner permission to administer the surveys and conduct interviews. An invitation was sent to participants (see Appendix A), and informed consent was also obtained (see Appendix B). The researcher conducted the interviews, as well as coded the interviews for themes. The researcher asked study participants to review the summaries and coding to ensure the intent of the responses was accurately captured.

To ensure objectivity, because the researcher works in a project-based learning school, an outside party was asked to review the survey and interview responses prior to coding. The outside party also verified the coding to ensure accuracy. The outside party is an expert in the

field of education and is a Doctor of Education degree holder. The outside party has rich experience in statistical analysis and methodology. Therefore, the outside party was appropriately credentialed and qualified to verify all coding. The themes and information gathered in the study were then compiled into a formal report that detailed the results, as well as posited potential solutions to teacher attrition.

Limitations

A study limitation is a potential weakness or issue within the research that is recognized by the researcher (Creswell, 2013). The primary limitation of the study is that the study was focused entirely on teachers who currently teach or formerly taught at PBL school network schools. The sample size does not include project-based learning schools in the United States that are outside of the PBL school network. The convenience sample was taken exclusively from the PBL school network, because it is the largest network of project-based learning schools in the country. All PBL school network schools are centered around a similar model of instruction, hiring, technology, and school culture. Given that other PBL schools likely do not share a cohesive vision for culture, methodology, and instruction, the study being focused solely on PBL school network schools is a limitation to the dissertation research study.

A second limitation is the age of the PBL school network. The PBL school network was launched in September 2015. Additionally, the network consists of several schools that were founded within the last two years at the time of the study's data collection. As a result, teacher retention data will not fully reflect the retention and attrition rates that can be found within other project-based learning schools. While the age of the network is young, the network is strong, as evidenced by the continuous growth through opening schools each year.

With only 18 total PBL school network schools within the United States, the scope is narrow. Compared to the number of schools in the United States, 18 is a small number. However, the PBL school network is the largest network of PBL schools in the U.S.. The schools within the network share common practices, methodologies, and visions. Therefore, studying solely PBL school network schools will allow the researcher to examine retention through a more unified lens.

Definition of Key Terms

Attrition refers to the departure of qualified teachers from the teaching field due to reasons other than retirement (Kelchtermans, 2017). When teacher attrition rates rise, the number of qualified educators decreases, and student outcomes can be negatively affected (Kelchtermans, 2017).

Retention refers to maintaining teachers within the field of education (Kelchtermans, 2017). Retention also refers to the remaining of qualified teachers within a specific school (Kelchtermans, 2017). Retention can be attributed to a number of factors. Most often, retention research (Kelchtermans, 2017) focuses on school characteristics and teacher demographics.

Project-based learning is a methodology in which students learn content through engagement in real-world projects (Yadav, Subedi, Lundeberg, & Bunting, 2011). Within project-based learning, students are assessed primarily through projects rather than traditional paper assessments. Students demonstrate knowledge gained through both project solutions and post-project reflection (Yadav et al., 2011). Students are responsible for guiding their own learning and conducting research to supplement their learning (Yadav et al., 2011).

Summary

Teacher attrition has become a problem with far-reaching impacts. Schools are unable to run effectively without adequately staffed teams of faculty. Students often suffer academically due to a lack of fully certified and capable teachers. Schools and districts lose large sums of money due to staffing and recruitment costs (Hughes, 2012; Glazer, 2018). According to Hughes (2012), each year, the number of vacant teaching positions increases. Finding a way to address the high rates of teacher turnover is crucial in order to stop the ongoing teacher shortages found across the country (Carver-Thomas & Darling-Hammomnd, 2019). Therefore, a comprehensive study of teacher attrition and retention was needed. This dissertation study examined retention practices within project-based learning schools specifically.

Project-based learning is defined as education that is centered around real-world, problem-based projects that actively engage students in the learning and investigation process (Choi et al., 2019). Students learn by asking questions, designing research and plans, and interacting with people within and outside of their schools (Choi et al., 2019). Students plan their own learning, work collaboratively with others, and complete work at a self-determined pace (Mahasneh & Alwan, 2018).

Choi et al. (2019) found that teachers who are active participants in innovative teaching practices report higher levels of self-efficacy, a factor that is crucial to teacher job satisfaction. Self-efficacy in teachers is defined as a teacher's belief in his or her abilities and capabilities to be effective (Choi et al., 2019). Self-efficacy can ultimately determine a teacher's attitude, approach to teaching, and job satisfaction (Choi et al., 2019). Job satisfaction is relevant because teachers often depart teaching positions when they are dissatisfied with the career.

Project-based learning schools benefit educators and students. When students are actively engaged and have buy-in with learning and instruction, teachers feel successful and competent within their positions (Glazer, 2018). If retention rates are found to be higher in PBL schools, as compared to retention rates in traditional schools, survey and interview data could reveal specific best practices school leaders implement that can be generalized to all school settings. Therefore, the purpose of this mixed-methods study was to develop a list of practices that can be utilized to increase retention in all school environments.

II. REVIEW OF LITERATURE

Introduction

The United States faces substantial teacher shortages (Carver-Thomas & Darling-Hammond, 2019). As a result, many school districts and state departments of education struggle with the task of building and retaining high-quality teachers. Many leaders and policymakers focus on recruitment rather than the *why* behind teacher shortages. Teacher attrition accounts for nearly 90% of teacher demand each year (Sutcher, Darling-Hammond, & Carver-Thomas, 2019). Less than one-third of teacher attrition results from retirement (Carver-Thomas & Darling-Hammond, 2019). Carver-Thomas and Darling-Hammond (2019) examined the U.S. teacher attrition rate and found that, from 1992 to 2008, teacher attrition increased from 5.1% to 8.4%. Although the 3.3% rate of increase seems small, when considering the teacher workforce of 3.8 million, the increase amounts to 125,000 teachers annually (Carver-Thomas & Darling-Hammond, 2019).

Teacher attrition was defined by Kelchtermans (2017) as the departure of qualified teachers from the teaching field because of reasons other than retirement. Retention refers to maintaining qualified teachers within the field of education (Kelchtermans, 2017). Additionally, Kelchtermans (2017) referred to retention as the remaining of qualified teachers within a specific school. Policymakers, therefore, have prioritized teacher turnover (Ronfeldt & McQueen, 2017).

Ronfeldt and McQueen (2017) stated that teacher attrition has a negative impact on schools, teachers, and students. Project-based learning schools differ from traditional schools in many ways, including instructional practices, teacher autonomy, administrator oversight, and student engagement (Craig & Marshall, 2019). Jacobson (2019) proposed that teacher retention should be higher in PBL schools. The purpose of this dissertation study was to examine teacher retention rates and retention practices in project-based learning (PBL) schools.

This dissertation study is significant due to the high rate of teacher attrition reported within schools across the country. The results of this study can be shared with educational leaders to inform them regarding the rationale behind teacher attrition, as well as best practices of schools with strong retention rates. School administrators could examine the research to extrapolate and adapt practices that could benefit their own retention practices. School administrators could be provided with information and strategies to implement to foster high rates of retention and bolster school district improvement as best practices are implemented across the country. Due to an increase in the number of ,and the rising popularity of, PBL schools, an examination of this type of school was necessary to determine if teacher retention rates were higher in a PBL school environment as compared to the traditional school model. Martin (2019) predicted that teacher retention and satisfaction rates would be higher in PBL schools. If retention was found to be higher in PBL schools versus traditional schools, then findings from surveys and interviews may reveal practices that facilitate stronger retention rates.

This literature review focused on three primary areas of research: attrition, retention, and project-based learning schools. The review examined the impacts of attrition, causes of attrition, attrition rates in United States schools, attrition rates in non-United States schools, and research studies on attrition. The review also examined contemporary retention data, proposed solutions

to bolster retention, retention rates in non-United States schools, and current studies examining retention. Lastly, the review examined PBL schools, data demonstrating the overall success of the PBL model, the impact of PBL-based professional development for teachers, student and teacher retention within PBL schools, a comparison of traditional and PBL school models, and a review of teacher job satisfaction in charter, public, and private school environments.

Attrition

Teacher attrition is an increasingly concerning problem within United States schools (Glazer, 2018; Hughes, 2012; Kelchtermans, 2017; Shaw & Newton, 2014). Vagi, Pivovarova, and Barnard (2019) cited teacher replacement as a burden too often placed upon schools. Replacing teachers often results in districts spending resources on recruitment, hiring, and training (Vagi et al., 2019). The cost of replacing a teacher ranges from \$4,000 in smaller, rural districts, to upwards of \$18,000 in more urban districts (Barnes, Crowe, & Schaefer, 2007). Additionally, replacing teachers with qualified applicants is more difficult in recent years due to prevalent teacher shortages across the United States (Sutcher et al., 2016).

Teacher attrition has far reaching impacts within a school (Brown & Wynn, 2009; Kelchtermans, 2017; Roegman, Pratt, Goodwin, & Akin, 2017; Shaw & Newton, 2014). When teachers decide to leave their teaching positions, the impacts extend beyond the four walls of the classroom. The effects of teacher attrition ripple outward through the school, and even to district, state, and national levels. Teacher attrition impacts school budgets, students' academic performance, faculty and staff morale, and administrator stress levels (Brown & Wynn, 2009; Kelchtermans, 2017; Roegman et al., 2017, Shaw & Newton, 2014).

Impacts of Attrition

Teacher attrition is a costly problem within United States schools. Harris, Davies, Christensen, Hanks, and Bowles (2019) have estimated the average cost of replacing a teacher in the United States is between \$4,400 and \$17,900. State expenditures related to teacher turnover are estimated to be over \$1 billion each year (Harris et al., 2019). Borman and Dowling (2008) found that teacher attrition can cost an employer up to 30% of the departing teacher's salary. Based on the 2017-2018 average starting teacher salary of \$39,249 (NEA.org), each individual case of teacher attrition can cost a school system \$12,546 (Borman & Dowling, 2008). Posting advertisements for open positions, examining submitted teacher applications, running background checks, and providing training to new hires are only a few of the tasks incurring expenses when a teacher decides to leave the classroom (Brown & Wynn, 2009). The high cost of teacher attrition nationwide caused policymakers to evaluate the causes of teacher attrition and actively work to find solutions to minimize teacher turnover (Borman & Dowling, 2008).

Attrition also negatively impacts student achievement. Replacing a teacher can be difficult, resulting in extended periods of classrooms without qualified teachers. Hiring and retaining capable and qualified teachers has been shown to increase student achievement (Brown & Wynn, 2009). Shaw and Newton (2014) found, however, that teachers who are new to the profession take three to seven years to become high-quality teachers; and, ensuring teachers transition from novice to high-quality becomes especially daunting when considering more than one-third of teachers leave the teaching field within the first five years of teaching. In a U.S. Department of Education report on teacher shortage areas, Cross (2017) found that subject areas, such as math, science, and special education, are especially challenging to fill due to the specialized and grade-specific content knowledge required. When specialized content area

teachers are in demand, staffing can become more challenging for administrators. Kelchtermans (2017) conducted a literature review study in which he found that teacher attrition decreases classroom instructional stability and quality. Additionally, attrition negatively impacts students' ability to learn at the expected academic rate (Kelchtermans, 2017).

Kelchtermans (2017) first analyzed the varying ways in which teacher attrition and teacher retention are problematized. In doing so, Kelchtermans (2017) was able to develop the definitions for both attrition and retention. Kelchtermans (2017) then shifted focus to the lessons that can be learned from examining teacher attrition. For example, teachers have a high need for social recognition amongst peers and administrators. The study then was shifted to examine retention and attrition as they pertain to teachers' professional lives. Once the thorough review was concluded, Kelchtermans (2017) developed an agenda to address the challenges associated with retaining quality teachers.

Teacher attrition affects each group within a school: students, teachers, staff, and administrators. Attrition also interferes with the building and maintaining of school culture (Kelchtermans, 2017). School culture refers to the ways in which school administrators, teachers, and staff work together, as well as to shared beliefs and values (Shafer, 2018). School culture is important, because its presence indicates alignment of both practice and mission (Shafer, 2018). When teacher attrition is a problem, school administrators, teachers, and staff may struggle to remain cohesive in practice, belief, and mission. Attrition also negatively impacts school faculty and staff members' ability to develop collective responsibility; and, the development of collective responsibility is important for school faculty and staff members' ability to develop a strong learning environment (Kelchtermans, 2017). Collective responsibility refers to teachers' willingness to take ownership over student learning, as well as student

learning in the entire school (Qian, Youngs, & Frank, 2013). When teachers are willing to work together toward student achievement gains, students benefit. Collective responsibility is positively associated with student achievement gains (Matteucci, Guglielmi, & Lauermann, 2017). Additionally, teacher collective responsibility is associated with teacher job satisfaction (Matteucci et al., 2017).

Teacher job satisfaction is a vital piece to teacher retention (Matteucci et al., 2017). Toropova, Myrberg, and Johansson (2019) conducted a study to investigate the relationship between teacher job satisfaction, working conditions, and teacher characteristics. The study focused solely upon eighth grade mathematics teachers. The authors obtained data from the *Trends in International Mathematics and Science Study 2015* that was conducted by the International Association for the Evaluation of Educational Achievement (IEA) (Toropova et al., 2019). The authors focused the study primarily on the data from Sweden for eighth grade mathematics teachers (Toropova et al., 2019).

One of the findings of the study outlined that, when teachers are satisfied within their roles, they are less likely to experience burnout and stress (Toropova et al., 2019). Additionally, according to Toropova et al. (2019), students benefit academically when teachers feel higher levels of job satisfaction. Teachers who experience high levels of job satisfaction provide higher instructional quality and better academic supports to students (Toropova et al., 2019). Additionally, when teachers are satisfied with their jobs, students feel more comfortable coming to their teachers for help and academic support (Toropova et al., 2019). Toropova et al. (2019) found that teachers with high levels of job satisfaction also exhibit stronger job commitment and are less likely to leave the teaching profession. Stronger job commitment also leads to an increase in student academic achievement due to instructional continuity (Toropova et al., 2019).

When teachers feel a lack of job satisfaction, both the teachers and their students face consequences (Afshar & Doosti, 2016). Afshar and Doosti (2016) conducted a large-scale study of secondary school English teachers and job satisfaction. The total number of participants included 64 English teachers and 1,774 students. Participants completed a previously validated questionnaire assessing teachers' job performance. Upon conclusion of the study, Afshar and Doosti (2016) found that job performance levels differed significantly between teachers who felt job satisfaction and those who did not feel job satisfaction. Additionally, students with teachers feeling low levels of job satisfaction reflected more negatively on the performance evaluations for their teachers (Afshar & Doosti, 2016).

According to Barnes (2018), teacher job satisfaction can be a key determinant affecting turnover, mobility, shortages, and burnout. School administrators hoping to increase retention must actively work to ensure teachers are satisfied within their roles. In 2013, researchers determined that teacher job satisfaction had reached its lowest point in twenty-five years. According to Barnes's (2018) research, only 39% of teachers reported feeling satisfied with their jobs. A decrease in job satisfaction negatively impacts both students and schools. Teacher job satisfaction has been linked to both student achievement and a lack of growth of educational systems. Barnes (2018) found that teacher job satisfaction and motivation are the most influential factors in student engagement and achievement. When teachers report higher levels of motivation and job satisfaction, students often report higher levels of academic engagement and willingness to learn. Administrators should actively seek to uncover what contributes to teachers' job satisfaction in order to both retain teachers and increase student engagement and academic achievement (Barnes, 2018).

According to Edinger and Edinger (2018), the risk of teacher attrition can be decreased when teachers are satisfied within their jobs. Edinger and Edinger (2018) defined job satisfaction as the positive or negative observations an individual makes about his or her job. Edinger and Edinger (2018) reported that teacher job satisfaction is strongly correlated to teacher-student relationships. When teachers are satisfied, students are also satisfied; conversely, when teachers are dissatisfied, students are also dissatisfied. Edinger and Edinger (2018) found that teacher job satisfaction levels were at their lowest between 1998 and 2018. Teacher job dissatisfaction can have negative impacts on student achievement, teacher quality, and teacher accountability. Teacher job satisfaction can influence attitude, performance, and efficacy. Low levels of job satisfaction can result in absenteeism, reduced commitment, and high rates of attrition (Edinger & Edinger, 2018). Similarly, Aragon (2017) found that, of teacher preparation program graduates who enter the teaching profession, a high-number report feelings of job dissatisfaction and lack of autonomy.

The stressors associated with finding qualified and certified teachers, such as budgetary constraints and student academic outcomes, are aggravated by the task of needing to retain these teachers and ensure that the teachers become highly effective (Roegman et al., 2017). Administrators often cannot spend adequate time vetting potential new hires to ensure the hired teachers will be effective; additionally, administrators find little time available to ensure teachers feel supported and confident to fulfill job responsibilities (Choi et al., 2019; Roegman et al., 2017). A lack of time to provide support and training, as well as budgetary stressors, can often result in an increase in administrative stress. When administrators face higher levels of stress, teachers receive less support and resources, thus resulting in a negative impact on student education (Roegman et al., 2017).

Brill and McCartney (2008) studied teacher attrition and the impact it has on United States schools. The authors conducted a thorough literature review on attrition to develop a well-rounded perspective on the subject. Brill and McCartney (2008) developed their study around three primary research questions: “What are the effects of teacher attrition? What can we do to talk this troubling phenomenon? How have local districts overcome—and even reversed—teacher attrition?” (p. 751). The literature review primarily examined case studies and research available at the time of the study (Brill & McCartney, 2008).

The results of Brill and McCartney’s (2008) study provided a well-rounded perspective on attrition in the United States. First, the authors (2008) cited the economic costs of attrition. The costs associated with a teacher’s departure ranges from 20% to 150% of the teacher’s salary. Given the percentage of teachers leaving the profession each year, Brill and McCartney (2008) estimated that attrition can cost \$2.2 to \$4.9 billion annually. The costs associated with attrition are incurred at the national, state, district, and school levels. Attrition also incurs institutional costs. When schools experience teacher turnover, the culture and community can be disrupted, thus leading to a lack of organization and structure. A loss of instructional continuity can result from attrition as well. A loss of experienced teachers can negatively impact student achievement, as well as school and district scores. Due to the negative consequences of attrition, United States schools must actively combat attrition by the implementation of strong retention practices (Brill & McCartney, 2008).

Wushishi, Foui, Basri, and Baki (2014) conducted a qualitative study to examine the effects of teacher attrition from teachers’ perspectives. The researchers utilized purposeful sampling to select five teachers for the study. The teachers were recommended by their principals for the study. Three out of the five teachers had 20 or more years of experience.

Interviews comprised of multiple one-to-two-hour sessions were conducted to gather the necessary information for the study. After receiving permission, interviews were tape recorded and transcribed to ensure accuracy. The transcripts were then categorized and analyzed to extract emerging themes and reviewed by an outside party to verify results (Wushishi et al., 2014).

Upon a review of the transcripts, the authors found four major themes: impact on student academic performance, increased workload for other teachers, financial ramifications, and impact on administrators (Wushishi et al., 2014). All five respondents reported that teacher attrition negatively impacted student performance. Additionally, all five participants stated that teacher attrition resulted in an increase in workload for the remaining teachers in the school. Third, the teachers indicated that administrators often end up overburdened when working to hire replacement teachers. Finally, each of the participants cited negative financial ramifications when teacher attrition occurs (Wushishi et al., 2014). An analysis of teacher perspectives on attrition demonstrates that teacher attrition is a phenomenon with far-reaching impacts.

Kelchtermans (2017) conducted a thorough literature review of studies on teacher attrition. The study was founded on the notion that teacher attrition is a growing problem worldwide and needs to be addressed quickly. One purpose of Kelchtermans's (2017) study was devising a definition of the word attrition. The authors stated that no clear, commonly shared definition existed for the word. The second purpose of the study was to ascertain both the causes of attrition and the impact of attrition (Kelchtermans, 2017).

Kelchtermans (2017) developed a list of several negative effects of attrition. First, teacher attrition prevents instructional continuity and hinders student learning. Second, Kelchtermans (2017) wrote that teacher attrition prevents school culture building and

cohesiveness. Teachers may struggle to remain consistent academically and with student behavioral expectations if they find themselves continuously onboarding new teachers.

Kelchtermans (2017) stated that existing teachers frequently are put in charge of mentoring new hires and explaining school rules and culture. Lastly, attrition prevents school faculty and staff from developing a collective sense of responsibility (Kelchtermans, 2017). A thorough analysis of Kelchtermans's (2017) study shows the negative impacts faced by teachers as a result of attrition.

Teacher attrition is a pervasive and harmful problem (Borman & Dowling, 2008; Brill & McCartney, 2008; Brown & Wynn, 2009; Harris et al., 2019; Kelchtermans, 2017; Matteucci et al., 2017; Roegman et al., 2017; Shaw & Newton, 2014; Wushishi et al., 2014). When teachers leave the teaching profession, costs are incurred at the school, district, state, and national level (Brill & McCartney, 2008; Choi et al., 2019; Roegman et al., 2017; Wushishi et al., 2014). For example, at the district level, attrition can be estimated to cost an average of \$9,000 to \$26,500 per teacher, depending on the district size (Watlington, Shockley, Guglielmino, & Felscher, 2010). Student achievement is negatively impacted due to a lack of instructional continuity (Brill & McCartney, 2008; Brown & Wynn, 2009; Kelchtermans, 2017; Shaw & Newton, 2014; Wushishi et al., 2014). Schools are unable to build and maintain a cohesive and consistent school culture (Brill & McCartney, 2008; Kelchtermans, 2017; Matteucci et al., 2017). Lastly, administrators and teachers face an increased workload as a result of attrition (Kelchtermans, 2017; Wushishi et al., 2014). When teachers choose to leave the profession, the impacts create a ripple effect, beginning in the school and expanding outward to the national level.

International Studies on Attrition

Teacher attrition is not relegated solely to the United States. The departure of teachers from the teaching profession is a problem faced by schools worldwide. Dove (2004) examined teacher attrition globally. The study found attrition to be prevalent in both developed and undeveloped countries throughout the world. According to Dove (2004), international research reports teacher attrition rates between 5 and 30 percent.

Mulei, Waita, Mueni, Mutune, and Kalai (2016) researched teacher attrition in Kenya, as well as worldwide. Mulei et al. (2016) reported a United States teacher attrition rate of 8.4%. The attrition rate in Canada was 2.4%, New Zealand as 9.9%, 5% in Australia, between 4-9% in Europe, 2-4% in Asia, Sub Saharan Africa ranging from 3-10%, and 7% in Kenya. Kenya differed from the United States, however, with the causes of attrition. While Kenya experienced attrition due to working conditions, pay, and support, the country also experienced attrition due to the effects of HIV and AIDS. According to Mulei et al. (2016), the effects of HIV and AIDS ranged from death, chronic illness, absenteeism due to illness, and early retirement due to medical reasons. Of 10,000 teachers leaving the field, 6500 left due to HIV and AIDS (Mulei et al., 2016).

For their study on teacher attrition, Mulei et al. (2016) surveyed 202 participants. Of the participants, 171 were teachers, 29 were principals, one was a sub-county director of education, and one was a human resources director. The instruments utilized were a questionnaire, interviews, and document analysis. The interviews for the study solely focused upon ascertaining the reasons why teachers quit. All data were analyzed using descriptive and inferential statistics (Mulei et al., 2016).

Mulei et al. (2016) found that more male teachers left the profession in Kenya than females. Document analysis of historical retention data revealed that 62% of the teacher loss was from male teachers. Additionally, the male teachers had a high amount of professional misconduct incidents, specifically, out of 10,000 teachers, 500 were fired for misconduct. Professional misconduct was defined by Mulei et al. (2016) as sexual impropriety and misappropriation of school funds. According to the results of the study, 75% of teachers who left the profession cited poor working conditions as the rationale behind their departure. In the summary of the study, Mulei, Waita, Mueni, Mutune, and Kalai (2016) reported that the large majority of teacher attrition in Kenya was due to lack of good housing options, inadequate water supply, lack of social options, and excessive workload.

Towers and Maguire (2017) examined teacher attrition in England. All data for the study was taken from existing research on teacher retention and attrition. According to a review of government statistics in the United Kingdom, Towers and Maguire (2017) found that nearly one-third of teachers who joined the field in 2010 left within five years. A study cited by Towers and Maguire (2017) found that 70% of qualified teachers left the profession after five years, 61% after 10 years, and 50% left the field after 19 years. Teachers in England leave the profession due to increased workload and accountability, lack of administrative support, and lack of professional and personal life balance (Towers & Maguire, 2017).

Den Brok, Wubbels, and van Tartwijk (2017) conducted an examination of teacher attrition both globally and in the Netherlands. While countries, such as the United States, the United Kingdom, and Australia, reported high levels of teacher attrition, other countries did not report high levels of teacher attrition. Hong Kong reported teacher attrition rates of 4.8-5% for teachers within the first five years (den Brok et al., 2017). Further examination of Hong Kong

schools' retention data showed several factors contributing to the lower rates of attrition. Oftentimes, teachers remain in the field due to strong social obligations, cultural factors, high salary, and high status. Cultural factors included fear of losing face and risk of social isolation (den Brok et al., 2017).

In their study on teacher attrition globally, den Brok, Wubbels, and van Tartwijk (2017) examined existing research. The authors searched the Internet with specific keywords, such as *teacher attrition*, *teacher turnover*, and *teachers leaving the profession*. Den Brok, Wubbels, and van Tartwijk (2017) also examined published dissertations to find qualitative and quantitative trends in the data on attrition. After evaluating the trends in data, den Brok et al. (2017) summarized the data on the number of teachers leaving the profession. The data showed that teacher attrition rates are highest worldwide in the United States, the United Kingdom, and Australia (den Brok et al., 2017).

A 2012 report cited a teacher shortage rate of 1-3% in the Netherlands (den Brok et al., 2017). Furthermore, den Brok et al. (2017) also reported a significant decrease in the number of students graduating from teacher preparation and education programs. The decreasing number is important, because it indicated that the number of teachers available to fill vacancies each year would not be adequate. When the number of students graduating from teacher preparation programs decreases, fewer teacher candidates are available to fill vacant positions. An estimated 12-32% of candidates who graduated from teacher preparation programs never enter the teaching field. An examination of teacher attrition data in the Utrecht region of the Netherlands showed that 40% of teachers left their assigned schools within the first two years, and half of the teachers left the profession altogether (den Brok et al., 2017).

Den Brok, Wubbels, and van Tartwijk (2017) also examined van der Grift and Helms-Lorenz's (2013) study on early career attrition. The researchers (2017) conducted a case study and monitored 338 teachers over the course of three years to determine their desire to return to the profession the next school year. The results showed an attrition rate of 22% for certified teachers and 46% for uncertified teachers. An examination of a large database maintained by the government of the Netherlands regarding teacher education programs revealed that 21% of secondary education teachers left after one year and 31% after five years (den Brok et al., 2017).

To examine the reasons for teacher attrition in the Netherlands, the researchers analyzed questionnaire responses and interview data from existing studies (den Brok et al., 2017). According to den Brok, Wubbels, and van Tartwijk (2017), teachers within the Netherlands reported being less happy with their job conditions compared to other professionals in the Netherlands. Teachers reported dissatisfaction due to working more than the contracted hours and lack of overtime pay. Additionally, teachers felt higher levels of stress and burnout compared to other professions. However, teachers in the Netherlands reported satisfaction with the level and quality of professional development provided (den Brok et al., 2017).

Gallant and Riley (2017) conducted a collective case study in order to investigate early career attrition of male teachers in Australia. The authors utilized 2-to-3 hour-long interviews to gather data. To analyze the information gathered in the interviews, the authors utilized the Personal Interpretive Framework (PIF) tool developed by Kelchtermans (2017), as well as combined key elements of sense-making (Weick, Sutcliffe, & Obstfeld, 2005; Gallant & Riley, 2017). The sense-making constructs were interpreting schools' contexts, making sense of their position within the profession and school, representing sense of self, and analyzing dynamics of power and influence, including structural reality. The PIF components utilized were self-image,

self-esteem, job motivation and demotivation, task perception, and future perspective (Gallant & Riley, 2017).

Gallant and Riley (2017) recruited five male participants to participate in the study. All five teachers were classified as early career teachers, and one of the five teachers was a primary relief teacher, or substitute teacher. Gallant and Riley (2017) had a research assistant conduct the interviews. Upon completion of the interviews and data analysis, Gallant and Riley (2017) compiled a list of reasons for attrition. The participants reported a lack of autonomy, limited opportunities for creativity, power imbalance between administrators and teachers, and lack of peer engagement as reasons for attrition. The five male teachers felt the expected workload was too much and felt burdened by expectations (Gallant & Riley, 2017). Gallant and Riley (2017) conceded that the study was limited by the small number of participants and the focus solely on male teachers.

Of beginning teachers in Israel, 30-45% leave the profession within the first five years (Yinon & Orland-Barak, 2017). In a study on Israeli teachers who left the position, Yinon and Orland-Barak (2017) focused on a salutogenic perspective on attrition. The salutogenic perspective views attrition as a career decision that reflects on the meanings teachers attach to their work. The study focused on the narrative perspective, with Yinon and Orland-Barak (2017) focusing on the stories teachers told related to their experiences. Yinon and Orland-Barak (2017) purposefully selected 34 current and former teachers. The participants were chosen using a maximum variation sampling method. The maximum variation sampling method involves picking a wide range and variety of cases in order to achieve variation in the results of the study (Yinon & Orland-Barak, 2017).

Twelve of the participants in the study left the profession either temporarily or permanently within a time period of ten years. The authors focused primarily on these participants due to the study's focus on attrition. The participants were heterogeneous in gender, age, marital status, subjects taught, education level, and career path. Data was gathered using semi-structured interviews, and all participants were interviewed twice. Interviews were recorded and transcribed with permission of the participants. The interviews focused on the themes, choosing a teaching career, training to become a teacher, internship, career history, reasons for staying or leaving, and future plans (Yinon & Orland-Barak, 2017).

The stories extrapolated from the interviews were analyzed by utilizing three principles. The first principle was a content-oriented approach, which asks questions such as “what happened” and “who participated” to focus on the explicit and implicit content. The second principle was the hermeneutic process of analysis, which involves multiple readings and dialogical processes between data, researcher, and the phenomenon being studied. The third principle was writing as a method of inquiry that is seen as an important part of data analysis (Yinon & Orland-Barak, 2017).

Yinon and Orland-Barak's study had several limitations. Yinon and Orland-Barak (2017) focused solely on teacher attrition due to calling. The study acknowledged attrition as a pervasive problem among Israeli schools but offered no solutions to the issue. Additionally, the authors examined one reason for attrition: feeling a calling to a new profession (Yinon & Orland-Barak, 2017). Due to the high rate of teacher attrition in Israel, additional research is needed.

Pitsoe (2013) examined teacher attrition trends and challenges in South Africa. Severe rates of teacher attrition are found in the Arab States, East Asia, the Pacific, and South and West Asia. More than two-thirds of the countries, globally, with the highest rates of teacher attrition

and shortages were found in sub-Saharan Africa. According to literature cited by Pitsoe (2013), South Africa will need to hire between 20,000 and 30,000 new teachers every year to make up for existing shortages (Pitsoe, 2013).

Teacher attrition in sub-Saharan Africa can be attributed to a variety of factors, including the HIV and AIDS pandemic. According to Pitsoe (2013), low socio-economic status and living in especially rural areas can expose teachers to higher risks of infection. Therefore, fewer teachers would be available due to fighting illnesses. Other factors contributing to attrition in the area were unfavorable working conditions, overcrowding of schools and classrooms, lack of facilities, lack of incentives, low parental participation, and role conflict. In sub-Saharan Africa, attrition caused problems in education quality, equity, and efficiency. High rates of attrition limited students' access to high-quality education and unequal distribution of quality teachers across student populations (Pitsoe, 2013). To combat attrition in sub-Saharan Africa, Pitsoe (2013) recommended higher teacher salaries, differentiated salaries based on experience and content areas, smaller class sizes, and a mentoring program.

After citing early career teacher (ECT) attrition rates of 30% in the United States and 25-40% in Australia, Trent (2017) examined teacher attrition amongst English language teachers in Hong Kong. Teacher attrition in Hong Kong was exacerbated by declining work environments, increased workload and decreasing resources, declining birth rates, and challenges to competency. Typically, ECTs faced challenges, such as pre-service teacher preparation, lack of guidance, lack of resources, and unrealistic administrator expectations. In Hong Kong, however, Trent (2017) cited challenges, such as needing to assume full teaching duties and responsibilities from day one, job security threats due to education privatization, and educational reforms

focusing on accountability. English language ECTs faced additional stress from pressure and criticism over rumored failing English language standards in Hong Kong (Trent, 2017).

Trent (2017) recruited as participants five former English language teachers from different Hong Kong schools. Each teacher was within the profession for at least three years and was born in Hong Kong. Additionally, each teacher completed an undergraduate teacher education and preparation program. Trent (2017) utilized purposeful and convenience sampling. Convenience sampling was implemented first, because Trent (2017) was acquainted with two of the participants. The two participants then referred Trent (2017) to the final three participants, leading to purposeful sampling.

The five participants participated in a semi-structured interview. Each interview lasted between 45 to 70 minutes and was recorded and transcribed. The interviewer gathered biographical information and asked for information regarding the participants' qualifications, professional backgrounds, and motivations for teaching. The interviews then shifted to focus on the participants' experiences teaching in Hong Kong; relationships with students, other teachers, and administrators; and the reasons for leaving the profession. The primary reason the interviewees reported for leaving was the lack of freedom to construct and form their own identities as teachers. The teachers reported limited agency, which led to frustration and disappointment within their roles (Trent, 2017). Trent (2017) acknowledged the limitation of the study due to a focus solely upon Hong Kong teachers.

Though Canada is a part of North America, teacher retention in Canada is often studied independent of the United States (Kutsyuruba, Godden, & Tregunna, 2013). The estimated teacher turnover rate in Canada is 30% within the first five years of teaching. Kutsyuruba et al. (2013) cited a lack of research into the issue of early career teacher (ECT) attrition within

Canada as the rationale behind the study on ECT attrition. Kutsyuruba et al. (2013) utilized document analysis for the qualitative study. The study was comprised of domain definition, sampling, data collection and analysis, and interpretation (Kutsyuruba et al., 2013).

Kutsyuruba et al. (2013) conducted a search using key terms, such as new teachers, induction, mentoring, professional development, and entry into the profession. All documents for the study came from provincial education authorities, teacher associations, teacher unions, and district school boards, and were publicly available at the time of the study. All data was gathered and organized according to themes. The authors presented findings individually by province. According to Kutsyuruba et al. (2013), to combat attrition rates in Canada, provinces must include mentoring as a part of teacher induction for beginning teachers. Additionally, provinces must also ensure administrators provide ample support for both beginning and veteran teachers (Kutsyuruba et al., 2013). The findings of this study can be easily generalized to other countries worldwide. According to Kutsyuruba (2013), provision of administrative support and mentorship can combat high teacher attrition.

United States Studies on Attrition and Its Causes

Due to the extensive and far-reaching effects of attrition, researchers have sought to understand the causes of attrition. Carver-Thomas and Darling-Hammond (2019) conducted a study to examine the varying predictive factors associated with teacher turnover nationally. Carver-Thomas and Darling-Hammond (2019) found that turnover varies across states and school districts. Nationally, the results showed 8% of teachers leave the profession, and 8% of teachers switch schools.

Carver-Thomas and Darling-Hammond (2019) grouped predictors of turnover into four primary categories: school characteristics, teacher characteristics, subject area, and workplace

conditions. Within school characteristics, Carver-Thomas and Darling-Hammond (2019) found that teachers in schools with 25% or more students of color were statistically more likely to leave teaching or move schools. Additionally, Carver-Thomas and Darling-Hammond (2019) found teacher turnover rates were correlated with class size, finding that the larger class sizes became, the higher teacher attrition rates grew. Teacher demographic characteristics played a role in turnover. The youngest and oldest teachers within the study had higher rates of attrition than others, and the median-aged teachers tended to stay longer within the field. The number of years teaching in the classroom was found to play no role in turnover (Carver-Thomas & Darling-Hammond, 2019).

The researchers (2019) examined teacher attrition within Title I schools. The designation Title I school was derived from Title I under the Elementary and Secondary Education Act. The Title I act was derived from the 1994 Elementary and Secondary Education Act (Billig, 2009). The act was more commonly known as the Improving America's Schools Act and was focused on five primary themes. According to Billig (2009), within the Elementary and Secondary Education Act, all students should be held to the same academic state standards. The state standards should be rigorous and challenging. Additionally, funding will be targeted specifically to schools and areas of greatest need. Students' families and communities are expected to form partnerships with schools in order to ensure all students succeed. Lastly, support systems should be in place to ensure local education agencies, support teams, and regional assistance centers are able to assist practitioners (Billig, 2009). Title I provides financial assistance to schools to ensure all children are able to meet academic state standards (Carver-Thomas & Darling-Hammond, 2019).

Carver-Thomas and Darling-Hammond (2019) defined a Title I school as a school with higher percentages of low-income students compared to other schools. Title I schools are intended to further the educational goals of both state and local districts. The intent of implementing Title I schools was to ensure all students are able to meet challenging academic standards at the state level (Billig, 2009). The teacher turnover rate in Title I schools is 50% higher than in non-Title I schools (Carver-Thomas & Darling-Hammond, 2019).

Carver-Thomas and Darling-Hammond (2019) found that science, math, and special education teachers were discovered to have the highest turnover rates. Math and science teachers left Title I schools at a higher rate than other schools. Special education teachers had the highest turnover rate at 14.2%. The special education teacher turnover rate did not vary between Title I and non-Title I schools. Mathematics and science teachers in middle and high schools had a combined predicted turnover rate 37% higher than elementary school teachers. The attrition rate for Title I special education teachers' was 46% higher than non-Title I teachers' attrition rate, and Title I foreign language teachers' rate was 87% higher than non-Title I teachers' attrition rate (Carver-Thomas & Darling-Hammond, 2019).

Carver-Thomas and Darling-Hammond (2019) found that compensation and administrative support played a large role in teacher turnover. A lack of administrative support was found to play the largest role in teacher turnover. Administrative support was defined by the authors (2019) as staff encouragement of one another, communication, and effective operations. If a teacher feels a clear lack of administrative support, turnover is twice as likely than the turnover rate for teachers with adequate administrative support (Carver-Thomas & Darling-Hammond, 2019).

Den Brok et al. (2017) conducted an exhaustive study of the literature on teacher attrition, through which the authors developed a list of causes of attrition: low compensation, job dissatisfaction, lack of organization, lack of resources, lack of decision-making power, lack of social relationships, and unhealthy school culture. Although these causes were found to contribute to teacher attrition, den Brok et al. (2017) proposed several additions to this list of causes. Den Brok et al. (2017) cited lack of support, lack of student engagement and resources, no opportunity for professional development, and social isolation. After a thorough analysis of existing literature, the authors reviewed the results and determined that their list of causes best encompassed the existing research.

Sutcher et al. (2016) conducted a study examining the varying demographics associated with attrition, such as age, experience, and geographical location, and compiled a report on the teacher shortage problem in America. The authors (2016) developed a list of reasons why teachers leave the profession. The most significant reason for attrition was dissatisfaction, followed by personal reasons, retirement, pursuit of another job, and financial reasons. Within the category of dissatisfaction, the authors extrapolated a specific list of causes for attrition, such as dissatisfaction with administration, state testing and accountability measures, lack of support, lack of autonomy within the classroom, and lack of student engagement (Sutcher et al., 2016).

Teachers leave the field of education for a variety of reasons (Carver-Thomas & Darling-Hammond, 2019; den Brok & van Tartwijk, 2017; Sutcher et al., 2016). Oftentimes, a lack of adequate or competitive compensation causes teachers to leave (Carver-Thomas & Darling-Hammond, 2019; den Brok & van Tartwijk, 2017). When teachers feel a lack of support and limited access to resources, the frustration can lead to attrition (Carver-Thomas & Darling-Hammond, 2019; den Brok & van Tartwijk, 2017; Sutcher et al., 2016). Attrition can also be

caused by a lack of student engagement within the classroom (den Brok & van Tartwijk, 2017; Sutchter et al., 2016). Teachers desire decision-making power and autonomy within the classroom. When teacher autonomy is lacking, teachers may find themselves dissatisfied and leave the profession (Sutchter et al., 2016). While knowing the many causes of teacher attrition is vital, researchers, schools, and policymakers must also examine potential solutions to teacher attrition. Improving teacher retention rates is key to correcting the negative and far-reaching impacts of attrition.

Teacher Shortages

Teacher attrition and teacher shortages can often become confused. However, teacher attrition is a cause of teacher shortages. Barnes (2018) analyzed the teacher labor market and found that teacher vacancies were opening at a rate that will be impossible to fill. Aragon (2017) stated that the high rate of teacher shortages was the largest threat to United States schools. As a result of teacher shortages, many states have chosen to utilize less strict hiring practices and standards in an effort to fill vacant classrooms with teachers (Suarez, 2018). Barnes (2018) cautioned that, while doing so will fit the quantifiable needs of schools, the schools' qualitative needs will not be met. Hiring inexperienced or underqualified teachers affects school environment, quality of instruction, student achievement, and working conditions (Barnes, 2018).

According to Aragon (2017), a decreasing number of high school graduates expressed interest in pursuing a career in the field of education. Additionally, the number of college students interested in a teaching career is decreasing. In the 2009-2010 school year, 725,518 students were enrolled in a teacher preparation program. By the 2013-2014 school year, that

number decreased to 465,536 students. The increased lack of interest in the field of education further contributes to the growing teacher shortage problem in the United States (Aragon, 2017).

During the 2011-2012 school year, 68% of schools reported at least one teaching vacancy (Aragon, 2017). Aragon (2017) also discovered that math, science, and special education were the teaching positions most likely to experience shortages. Aragon (2017) discovered that many colleges graduate a high number of teaching candidates in low-demand areas, such as elementary education and English, and a low number of candidates in high-demand areas, like science and math. Last, Aragon (2017) reported shortages specifically in inner-city and low-income schools.

Barnum (2018) conducted research on teacher shortages in large school districts. According to Barnum (2018), districts were limited to few options when faced with a high number of unfilled positions. Districts can utilize substitute teachers, increase class sizes, or allow non-teaching positions, such as reading specialist, to go unfilled. Chicago, for example, reported nearly 1,300 teacher vacancies. New York City reported 900 vacancies at the start of the 2017-2018 school year. Barnum (2018) stressed the impact teacher shortages has on students within the classroom. In a study on students taught by late-hire teachers, Barnum (2018) found that students had lower math and reading scores on the end of course exams. The impact on student scores was not attributed solely to a lack of qualified teacher at the beginning of the year. Barnum (2018) found that the low scores were primarily because late-hire teachers were less qualified.

Sutcher, Darling-Hammond, and Carver-Thomas (2019) found that every state within the United States reported teacher shortages for the 2017-2018 school year. Sutcher et al. (2019) defined a teacher shortage as “an insufficient production of new teachers, given the size of student enrollments and teacher retirements” (p. 4). Teacher shortage also refers to a shortage

due to turnover, changes in educational programs, attractiveness of the profession, and student-teacher ratios. Based on a 2019 analysis, Sutchter et al. (2019) predicted that teacher demand will increase drastically throughout the coming decade. Student population is expected to increase by 3 million students, which will affect student-teacher ratios. Sutchter et al. (2019) also found that teacher preparation program enrollment declined by 35% between 2009 and 2014, and 23% fewer teacher candidates completed the programs.

The teacher shortage for the 2015-2016 school year was roughly 64,000 teachers, and this number increased to 112,000 teachers for the 2017-2018 school year (Sutchter et al., 2019). Sutchter et al. (2019) concluded that nearly every state within the United States had reported shortages in specific subjects, and many states often resorted to hiring under-qualified or uncertified teachers for positions. Shortages were reported in math, science, and special education. Teacher shortages could be attributed to the lack of availability of new teachers, salaries, working conditions, and attrition rates (Sutchter et al., 2019). Sutchter et al. (2019) cited four main factors as the sources of teacher shortages: a decline in teacher preparation program enrollments, class sizes with lower pupil-teacher ratios, increased student enrollment, and high rates of teacher attrition.

Retention

Due to its large-scale consequences, teacher attrition is often at the forefront of educational research. Each year, more than one million teachers enter into or leave the teaching profession (Geiger & Pivavaro, 2016). While it is important to take note of factors leading to attrition, as well as the consequences occurring when teachers quit, it is just as imperative to focus on methods to combat high rates of attrition. Retention is the method by which schools

and states can fight against high attrition rates. Retention refers to the remaining of teachers within the teaching profession (Kelchtermans, 2017).

Strategies for Retention in Teaching Fields

In their report on teacher attrition, Sutchter et al. (2016) devised a list of methods for recruiting and retaining high-quality teachers. In developing the list, the authors (2016) examined practices of countries with low attrition rates, such as Finland, Singapore, and Canada. Attrition rates in these countries were less than half the rate of attrition found in the United States. Finland, Singapore, and Canada recruit, train, and maintain teachers through high-level incentives, rather than lower hiring standards (Sutchter et al., 2016).

Countries with higher retention rates, compared to those with high attrition rates, implement several practices. Schools within the countries with high retention promoted salaries competitive with professions, such as engineering. Additionally, teachers received mentoring throughout their first year of teaching, as well as reduced teaching load and a common planning time. Professional development was offered within a time frame of 10-20 hours per week. Sutchter et al. (2016) determined that impactful professional development should be ongoing and lengthy in order to ensure teachers are able to grasp, retain, and correctly implement the knowledge gained. Lastly, experienced, expert teachers frequently offered professional development, curriculum planning workshops, and coaching to their peers (Sutchter et al., 2016). Based on the practices from countries with low retention rates, Sutchter et al. (2016) proposed that United States schools adapt and implement the best practices to lower the US teacher attrition rates. Sutchter et al. (2016) proposed the following: schools should create competitive compensation practices; teachers should receive extensive training and support; mentoring,

coaching, development, and induction should be provided to increase retention; and, teacher supply network should be created to facilitate hiring and keeping teachers.

Although many teachers enter the profession due to altruism, a lack of substantial pay can often cause teachers to leave the teaching field. Sutchter et al. (2016) found that teachers were more likely to remain in the teaching profession when the salary was competitive compared to other professions. Opportunities for salary growth have a direct impact on retaining teachers. Districts and states that have addressed compensation issues have reduced or eliminated teacher shortages. Sutchter et al. (2016) also proposed that states create incentives that make the cost of living more affordable for teachers. Such incentives are mortgage guarantees or other housing supports, child care supports, and opportunities to mentor or teach after retirement (Sutchter et al., 2016).

Sutchter et al. (2016) proposed that teachers receive extra training and support throughout their teaching careers by making preparation more affordable. Teachers who received little in the way of pedagogical training and preparation were found to be twice as likely to leave the profession when compared to teachers who received extensive preparation and training. Sutchter et al. (2016) proposed that the federal government create forgivable loans and scholarships to cover the cost of teacher preparation and training, resulting in greater access to teacher training and professional development. Another idea Sutchter et al. (2016) suggested as a methodology to better prepare teachers was the creation of teacher residency models in harder-to-staff districts. Teachers receive high-quality training and preparation through the residency model and also receive mentoring upon completion of the program (Sutchter et al., 2016).

The third idea for increasing retention was the provision of mentoring, coaching, development, and induction. Sutchter et al. (2016) found that, as teachers feel more capable and

qualified to carry out their jobs, the more they will feel a sense of self-efficacy and find satisfaction in teaching. Sutchter et al. (2016) discovered that mentorship programs improve teacher retention rates for new teachers. In addition to a mentorship program, teachers should also receive collaborative time to plan with other teachers (Sutchter et al., 2016). Collaboration with others provides additional opportunities for mentoring to teachers.

Finally, Sutchter et al. (2016) promoted the creation and facilitation of a national labor market for teachers. Often, teachers leave the profession when moving to a new state. Many states do not provide reciprocal teaching licenses, and securing a new teaching license can be overwhelming, therefore many teachers leave the profession. Sutchter et al. (2016) proposed a federal policy to eliminate interstate barriers for teaching licensure. Additionally, Sutchter et al. (2016) suggested enabling teacher pension to move across states.

In an examination of teacher retention, Young (2018) devised a list of methods for increasing teacher retention. First, schools must provide teachers with ample opportunities for meaningful professional development. Additionally, administrators should provide induction opportunities to provide teachers with extra support and experience. Providing mentor teachers for teachers within their first five years in the profession is also vital. Schools should also provide grade-level teams with a common planning time to allow for ample collaboration. Young (2018) suggested ensuring teachers were provided with a voice in school decision-making. Another important step was providing teachers with opportunities for advancement, such as department chairs, lead teaching positions, or mentoring opportunities. The last suggestion given by Young (2018) was ensuring teachers felt supported by the administration. When teachers feel supported and heard by those in leadership positions, retention can increase (Young, 2018).

Reitman and Karge (2019) conducted a grounded theory study through which they identified key strategies for bolstering teacher retention. The first strategy was the facilitation of staff relationships. When teachers felt supported by administration, faculty, and students' parents, they were more likely to remain in the teaching profession. The second strategy is providing pedagogical training. Teacher preparation and training should not end when a teacher graduates from school. Ensuring teachers feel prepared throughout their careers is key to retention according to Reitman and Karge (2019). A third retention booster was mentoring. Reitman and Karge (2019) found mentoring to be one of the most significant supports to foster teacher retention. When teachers were provided with a mentor, longevity within the teaching field increased. Reitman and Karge's (2019) final strategy for increasing retention was professional learning. Professional learning further lends towards teachers' feeling of competence within the teaching profession (Reitman & Karge, 2019).

Extensive studies have been conducted to determine the best ways to bolster teacher retention in United States schools. Though some studies have cited an increase in salary as the most effective way to retain teachers, not all researchers agree (Young, 2018). In general, the majority of researchers concurred that professional development and mentoring opportunities were an effective way to increase retention (Reitman & Karge, 2019; Sutchter et al., 2016; Young, 2018). In addition to mentoring and professional development, researchers also agreed that administrative support was key to teachers' feeling valued and having higher levels of self-efficacy (Reitman & Karge, 2019; Sutchter et al., 2016; Young, 2018).

Strategies for Retention in Non-Teaching Fields

Employee retention is not an issue relegated solely to the teaching profession. Various companies and fields actively work to bolster employee retention. Cloutier, Felusiak, Hill, and

Pemberton-Jones (2015) stated that ensuring high levels of employee retention was key to any organization's stability, growth, and financial well-being. Just as with schools, high rates of employee retention can increase financial costs, such as resources, recruiting, and time (Cloutier et al., 2015). According to Cloutier et al. (2015), at any given time, 75% of the workforce is actively seeking a different job. Of the 75%, 43% are seeking better compensation, 32% are looking for a better opportunity, and 22% are dissatisfied (Cloutier et al., 2015).

According to Cloutier et al. (2015), five main factors should be a part of employers' employee retention plans: vision, mission, values, and policies; standards of communication; diversity, inclusion, and integration; assessment of employee credentials and work history; and training and development. Companies with the highest levels of retention actively worked to factor in retention as a component of the organization's annual review and budget. Hiring human resource specialists has become commonplace as companies work to ensure employee loyalty and retention (Cloutier et al., 2015).

Successful companies tend to have employees that are committed and "bought-in" to the organizations' mission, vision, values, and policies, referred to as strategic intent by Cloutier et al. (2015). When companies had a clear and motivating mission, employees demonstrated higher levels of drive. A specific, targeted direction was key to maintaining employee commitment to an organization (Cloutier et al., 2015). Policies were important to reducing instances of misbehavior and reducing turnover, according to Cloutier et al. (2015).

The implementation of processes and standards of communication increased retention (Cloutier et al., 2015). Employees desire to know how they fit into the company's culture, so communication regarding an employee's role provides a clear purpose for the employee's job. Cloutier et al. (2015) recommended employers remain transparent and implement effective and

clear channels for communication at all levels, including executive, managerial, and employees. Effective standards of communication promote inclusiveness and diversity (Cloutier et al., 2015).

Hiring and retaining a diverse population within the workforce can be beneficial (Cloutier et al., 2015). Embracing and integrating a diverse, multi-cultural, cross-generational employee base allows employees to encounter fewer barriers and more opportunities for growth within the workplace. Cloutier et al. (2015) discovered that hiring women decreased by a total of 6% between 1996 and 2002. Employers should combat gender imbalance by actively seeking to employ women, demonstrating a desire to provide equal opportunities to both genders. As the United States diversifies, the workplace is diversifying as well; therefore, employers must actively work to ensure diversity and a lack of discrimination within the workplace (Cloutier et al., 2015).

Prior to hiring, employers should assess potential employees' credentials and work history to determine if the individual is both qualified and a good fit for the organization (Cloutier et al., 2015). Cloutier et al. (2015) stated that employee fit, or congruency with an organization, leads to retention. Fit also refers to the level of compatibility between an individual and an organization. Cloutier et al. (2015) emphasized the importance of ensuring potential hires fit with the job, the team, and the mission of the organization.

Proper training and development are vital to employee motivation and loyalty (Cloutier et al., 2015). Ensuring new hires are properly trained helps to create a more cohesive workforce. Employers should also provide employees with opportunities for leadership and growth, which can lead to feelings of appreciation and value. Another way to increase retention through training and development is through the provision of on-going targeted training. Target training was defined by Cloutier et al. (2015) as training specific to an individual's specific job

responsibilities, skills, and requirements. When employees are able to enhance skill sets, increased competency can often lead to promotions and increase in pay, thus bolstering retention (Cloutier et al., 2015).

Terera and Ngirande (2014) studied the impact of employee rewards on retention and job satisfaction. The study focused specifically on nurses in South Africa. Terera and Ngirande (2014) utilized a quantitative research design and randomly selected 180 nurses as participants. Each participant completed a self-administered questionnaire. Data from the questionnaires was analyzed using Statistical Package for the Social Sciences (SPSS) version 20.0. The intended aim of the study was to determine whether or not a relationship existed between rewards and employee retention (Terera & Ngirande, 2014).

According to Terera and Ngirande (2014), turnover within the health profession was a prevalent trend in the government sector. Specifically, in South Africa, the public health industry experienced high job mobility due to employees leaving for the private sector. Additionally, many employees left for western countries that offered better incentives and rewards than in Africa. As a result, the nursing profession faced a consistent drain of qualified and skilled labor (Terera & Ngirande, 2014).

Terera and Ngirande (2014) found that an organization's system of compensation played a direct and important role in determining employee commitment level and retention. Employee compensation is vital for attracting and retaining talent. Non-monetary rewards are also crucial for retaining skilled nurses, according to Terera and Ngirande (2014). Non-monetary rewards include opportunities for advancement and promotion, childcare, extended leave, and facilities for recreation (Terera & Ngirande, 2014).

Upon completion of the study, Terera and Ngirande (2014) found a positive relationship between rewards and employee retention. The data indicated that the more rewards an employee is given, the more likely he or she is to remain with a company. Additionally, the results indicated a strong, positive relationship between job satisfaction and employee retention (Terera & Ngirande, 2014). Terera and Ngirande (2014) stated that employers must ensure employees are satisfied if they hope to retain qualified staff members.

Deery and Jago (2014) conducted a study on retention strategies in the hospitality industry. The authors (2014) completed a thorough review of literature related to employee turnover. Gathered research was then coded according to four themes: employee attitudes, employee dimensions, work-life balance, and strategies for retention. Deery and Jago (2014) hoped to provide a greater understanding of the issue of employee retention, as well as develop a list of methodologies that could be implemented. No limitations were presented by Deery and Jago (2014).

Deery and Jago (2014) found that talent management, organizational attributes, work-life balance, and employee attitudes were key indicators of job satisfaction. Deery and Jago (2014) echoed Cloutier et al.'s (2015) belief that recruiting and hiring qualified talent was key to ensuring employees are able to execute job responsibilities accurately and confidently. Organizational attributes associated with high retention included work hours, pay, career development opportunities, and culture. Maintaining a healthy work-life balance was the most important factor related to employee retention, according to Deery and Jago (2014). Employers should discourage work-home life spillover and promote healthy working hours. When employees experience a lack of work-life balance, they can experience high levels of stress,

exhaustion, and burnout (Deery & Jago, 2014). Deery and Jago (2014) recommended that further retention research focus on strategies for ensuring work-life balance.

Idris (2014) presented the notion of flexible working hours as an employee retention strategy. Eight participants were randomly chosen for the study. Participants were either human resources managers or executives. Idris (2014) conducted semi-structured personal interviews of Malaysian bank employees. Prior to administering the interviews, Idris (2014) drafted the interview questions based on a thorough literature review. Interviews lasted one hour per participant and telephone calls were made to gain any clarification post-transcription of the interviews. Transcripts of the interviews were analyzed to identify themes and trends (Idris, 2014).

According to Idris and his research, implementing flexible working hours had several benefits. Flex hours enables employers to accommodate each employee's individual needs, while also maintaining work hours, performance, and pay. Additionally, flex time can be easily implemented by employers. Flex time does not require restructuring or adjusting job specifications. Idris (2014) also cited that flex time benefits employees because, oftentimes, short term leave provides enough time for an employee to resolve any issues. Due to technology advancements, employers are more equipped to allow employees to work from home, which enables employees to work from flexible locations (Idris, 2014).

Idris (2014) concluded that flex time contributed to employee retention among bank workers in Malaysia. Flex time was especially beneficial for employees with children due the flexibility of work hours, allowing parents to spend more time at home. Additionally, flex time did not lead to a decrease in work or organization performance (Idris, 2014). Due to its

demonstrated effectiveness, Idris (2014) recommended employers implement flexible working as an employee retention tool.

According to Shore (2015), employees are an asset to companies, helping to shape businesses and contribute to profitability. Shore (2015) conducted a qualitative case study to examine the effectiveness of retention methods in a South Korean high-growth organization. The research question Shore (2015) used to guide the study focused on how strategies for retention in the West could be utilized to improve retention in a South Korean organization facing retention issues. Shore (2015) held discussions with 60 senior managers from the company's headquarters in South Korea, as well as with senior managers in divisions in three locations in Europe. Shore (2015) hoped to gain insight into the work culture and why the examined company struggled with employee retention.

Shore (2015) provided a list of factors associated with job satisfaction and higher levels of retention. Flexible work schedule, growth opportunities, interpersonal relationships, job security, mentorship, pay, workload, supervisor supports, and training and development have all demonstrated success in improving employee retention. Upon a review of the factors with the 60 senior managers, Shore (2015) found that, while the company was implementing some practices, they were unable to implement a large majority. Cultural differences between Western companies and those in South Korea prevented the organization from implementing practices, such as flexible work schedule, supervisory support, recognition, and workload. Shore (2015) recommended that future research work to address the topic of retention in countries with different cultures.

Al Mamun and Hasan (2017) conducted a literature review study on factors affecting turnover and strategies to improve retention. From the research, Al Mamun and Hasan (2017)

devised a list of factors contributing to high rates of employee turnover in businesses. Al Mamun and Hasan (2017) also developed a list of retention strategies that can be implemented in business organizations. When implemented, Al Mamun and Hasan (2017) proposed that the retention strategies can bolster retention.

High rates of turnover can often be a result of poor and instable management. Employees are more likely to stay within a job when the organization is stable, and management is effective. A clean, safe, and maintained working environment also plays a role in retention and turnover. When salaries do not compete with other similar companies, employees are more likely to leave; therefore, higher pay has been associated with higher employee retention. Employees also desire clearly communicated job expectations. Al Mamun and Hasan (2017) established a correlation between clear expectations and feelings of competency. Feelings of competence have been linked to job satisfaction, and thus retention (Al Mamun & Hasan, 2017). Al Mamun and Hasan (2017) concluded the study by stating that the following are key to high retention: effective management, safe working environment, competitive salary, clear expectations, and feelings of competence.

In a book on retention strategies, Bussin (2018) examined the reasons for turnover, impacts of turnover, and retention strategies that can be implemented across organizations. When an employee leaves an organization, the turnover can lead to lower revenue, greater workload for remaining employees, lack of continuity, and reduced morale. Turnover can be caused by friction with coworkers, low pay, lack of growth opportunities, lack of motivation, and lack of communication (Bussin, 2018). According to Bussin (2018), because retaining employees is vital to an organization, employers have begun to place a larger emphasis on retention strategies.

First, replacing an employee can cost a company between 70-200% of the employee's salary. The costs associated with attrition come from recruitment, advertising, training, and operations; however, retaining existing employees prevents organizations from incurring the costs related to attrition. Bussin (20198) also cited competitive reasons to avoid attrition; when an employee leaves an organization, the individual also takes the knowledge, skills, and abilities learned in the previous role to the new job. Third, time is lost when an individual leaves because hiring a new employee takes time and resources, as the individual learns the role and responsibilities of the new position. The fourth reason retention is vital is the positive effect it has on work culture, because employees often become in sync with one another, leading to higher levels of efficiency. Another reason to focus on retention proposed by Bussin (2018) is that employees who remain in a position for a long period of time contribute more readily and easily, thus leading to higher efficiency rates. Loyalty is cultivated when employees remain within an organization, because the longer an employee remains at an organization, the more comfortable and attached the individual becomes (Bussin, 2018).

To increase retention, Bussin (2018) recommended fifteen total strategies. Employers should take time and seek to hire the right individuals at the beginning. Ensuring a potential employee is a good fit, both in qualifications and personality, staves off the risk of attrition. An organization should also provide a defined and clear career path, so employees have the potential to progress, if they choose. Bussin (2018) also recommended the provision of a rewards package to include salary, bonuses, leave time, shares in stock, work-life balance, meaningful work, and career growth. Similar to a rewards package, Bussin (2018) stated that employees desire and look for opportunities for advancement, skills development, and growth. Employers should

ensure employees are continuously provided with opportunities to develop new skills that could lead to new roles (Bussin, 2018).

Given the continuous growth and advances in technology, Bussin (2018) proposed employers provide greater work-life balance by providing opportunities to work from home. Work-life balance can also come in the form of flex schedules. Providing job security, feedback, recognition, a positive work culture, and positive environment are five more methods for retention cited by Bussin (2018). Employees can become frustrated when over or under qualified, therefore Bussin (2018) recommended employers ensure all individuals are matched to jobs correctly. Additionally, expectations for work and rewards should be properly matched for employees. Organizations can encourage the formation of work relationships between employees, thus increasing job satisfaction. Employees desire to know how their work contributes to the organization's objectives, therefore Bussin (2018) stressed that employers communicate how each individual is contributing. Lastly, employers should be transparent and fair during performance reviews with employees. Reviews should cover achievements, growth, and goals, as well as areas for development (Bussin, 2018). According to Bussin (2018), implementing the fifteen strategies can increase an organization's employee retention.

Kuhar, Miller, Spear, Ulreich, and Mion (2004) worked to develop a targeted approach to implementing retention strategies in the nursing field. The study consisted of 8 hospitals in the Cleveland Clinic Health System in Ohio. Both staff nurses and nurse leaders were surveyed. Kuhar and colleagues (2004) developed the Meaningful Retention Strategy Inventory (MSRI) for the study. The MSRI consisted of 59 items related to job satisfaction. The eight attributes related to retention and job satisfaction were communication, autonomy, administrative, recognition, working conditions, professional practice, scheduling issues, and pay/benefits. All

items on the survey were ranked on a 4-point Likert scale. Prior to administering the survey, Kuhar et al. (2004) established content validity and reliability. All data collection procedures were approved by the IRB at the Cleveland Clinic Foundation. Surveys were sent by mail to the nurses, completion was voluntary, and surveys were anonymous (Kuhar et al., 2004).

Upon collection of survey responses, Kuhar et al. (2004) analyzed the data using descriptive statistics. The survey items were collapsed into two categories: yes or no. Comparisons between groups were made using chi square or Fishers' exact tests. Kuhar et al. (2004) received 1,174 surveys total, a 36% response rate, and 91% of the survey respondents were women. Both staff nurses and nurse leaders reported that teamwork, periodic increases in salary, and coworker support were most important to boosting retention. Staff nurses and nurse leaders differed, however, in the ranking of the remaining retention strategies. Both staff nurses and nurse leaders ranked the importance of the strategies differently from each other (Kuhar et al., 2004).

Kuhar et al. (2004) compiled a final list of recommended strategies and grouped the items into three categories: people, process, and technology. Survey responses indicated teamwork, coworker support, retirement benefits, periodic pay increases, and paid time off were the most important factors within the people category. Both teamwork and coworker support were also grouped into the process category. Finally, provision of equipment and materials was the most important retention factor within the technology category (Kuhar et al., 2004). Kuhar et al. (2004) reported improved turnover rates with the implementation of the recommended retention strategies.

Fields outside of teaching differ from the teaching profession in many ways, such as job responsibilities, pay, and workplace environment; however, the retention strategies utilized in

fields, such as nursing, banking, and human resources, can be easily generalized to the field of education. Job satisfaction is key to retention both inside and outside of the teaching field. The strategies discovered by Cloutier et al. (2015), Terera and Ngirande (2014), Deery and Jago (2014), Idris (2014), Shore (2015), Al Mamun and Hasan (2017), Bussin (2018), and Kuhar et al. (2004) have provided recommendations with demonstrated effectiveness in boosting job satisfaction and morale.

Project-Based Learning

Project-based learning can be traced back to the early twentieth century when John Dewey actively worked to promote a notion he called “action-based learning” and placed experience at the forefront of learning. Dewey also promoted the emphasis of critical thinking skills. Later in the 1920s, William Kilpatrick took Dewey’s ideas and added the idea of child-centered learning in the classroom (Peterson & Nassaji, 2016). Both Dewey and Kilpatrick’s ideas serve as the foundation for project-based learning.

Project-based learning (PBL) calls for collaborative, inquiry-based learning with active student engagement. According to Tysbulsky and Muchnik-Rozanov (2019), students often work together to resolve a problem assigned by the teacher, striving to develop a product or solution. The project often ends with a reflective process, through which students self-assess their own work (Tysbulsky & Muchnik-Rozanov, 2019). Gomez-Pablos, del Pozo, and Munoz-Repiso (2016) found PBL to be an effective tool for developing fundamental critical thinking and research skills. Additionally, PBL lightens the typical curricular load found in many schools and promotes positive attitudes in students (Gomez-Pablos et al., 2016).

The PBL model helps students improve critical thinking skills, which in turn helps students to become confident and active throughout research and decision-making. In the PBL

model, students are trained in self-motivation, progress monitoring, ownership for learning, and self-criticism. Additionally, PBL stimulates teamwork and collaboration among students, as well as creates a sense of accountability between team members (Mahasneh & Alwan, 2018). Within PBL, teachers are free to focus less on classroom instruction, to a degree, because of the shift in who takes ownership over and responsibility for the learning (Lawlor, Conneely, Oldham, Marshall, & Tangney, 2018). Teachers no longer need to fill the entirety of the class period with direct instruction and content; instead, students are provided the space and freedom to guide and lead their own learning. Additionally, PBL teachers are often not held to strict curriculum standards compared to teachers in traditional school settings,⁷⁰ because the projects are the curriculum (Craig & Marshall, 2019). Project-based learning schools deviate from the traditional educational model through creativity and innovation. Teachers and students engage in creative problem-solving as projects call for the devising of solutions to real-world problems and scenarios.

Within a PBL classroom, the teacher serves as a guide to students, often allowing the class to lead its own learning (Gomez-Pablos, et al., 2016; Hursen, 2018). Projects are the focus of the classroom curriculum, rather than an activity (Baghoussi & El Ouchdi, 2019). According to Gomez-Pablos, et al. (2016), teachers within a PBL classroom must possess a specific set of skills to effectively lead students in project-based learning. Teachers must be able to analyze and identify the tasks students will carry out during the project, determine how the project will add to students' learning, develop the action plan for the project, work alongside students as the project is implemented, promote teamwork, and facilitate student decision-making, problem-solving, and responsibility development (Gomez-Pablos et al., 2016).

According to Joham and Clarke (2012), three critical factors should be considered in the structuring of project-based learning. First, each group of students should achieve a reasonable level of knowledge integration for collaborative learning to occur. Knowledge integration is important because, within collaborative learning, the responsibility should not fall solely on one student; instead, each student within the group should have knowledge to contribute. Second, all project-based learning should be linked to self-reflection by students. The act of self-reflection helps to engender increased self-awareness, self-directed learning skills, and problem-solving capabilities. Additionally, self-reflection helps students navigate the inevitable interpersonal problems and conflicts that can emerge during project-based learning group work. The last critical factor of PBL is for learning to be developed within a classroom structure that is comprised primarily of self-directed learning rather than teacher-directed learning (Joham & Clarke 2012).

Project-based learning schools have increased in the United States within the last decade (Joham & Clarke, 2012). For example, the PBL school network was founded in September 2015. Since its founding, 18 schools have opened within the network (“PBL School Network”, n.d.). Another network, Big Picture Learning, opened in 1995. Since its inception, 65 schools have opened (“Our Story”, n.d.). High Tech High, primarily operating in California, has a network of 16 schools (“About Us”, n.d.).

Success of the PBL Model

The PBL school model, as a whole, has demonstrated success across the country. Both students and teachers believe in the effectiveness of PBL. In an assessment of project-based learning schools, Virtue and Hinnant-Crawford (2019) found that a PBL school model resulted in better academic performance and non-academic outcomes. Non-academic outcomes included

problem-solving and critical thinking skills, as well as making connections to real-world issues. Additionally, Virtue and Hinnant-Crawford (2019) discovered that PBL can engender a more positive learning environment and foster relationships between students and their instructors.

When project-based learning is implemented within schools, students benefit. Unlike teacher-centered, traditional learning environments, PBL puts students' interests and needs at the center (Choi et al., 2019). Students are allowed to pursue academic autonomy as they select projects and pursue their own interests within the project parameters. PBL aligns with the notion that students are unique with individual interests and learning styles. Teachers do not focus projects on a single educational standard. As a result, projects are geared toward multiple perspectives, educational standards, and learning styles. Developing projects to focus on varying perspectives and learning styles allows students to engage with material in a manner that suits their own learning needs (Choi et al., 2019).

Virtue and Hinnant-Crawford (2019) conducted a mixed-methods study to compare academic outcomes of students enrolled in a PBL school network against those not enrolled in a PBL school network. Students were randomly selected and placed into focus groups. All students were juniors enrolled in the same school. The primary research question of Virtue and Hinnant-Crawford's (2019) study focused on student perceptions of PBL. Focus groups were interviewed using a semi-structured protocol. Students were primarily asked about their personal experiences with PBL and its impacts on their development. Once the focus groups concluded, Virtue and Hinnant-Crawford (2019) coded the transcripts by theme.

The results of Virtue and Hinnant-Crawford's (2019) study revealed that students struggled to identify ways in which math was enhanced by a PBL model. Students felt strongly that math did not readily lend itself to the PBL school model. While science was more readily

adapted into the PBL model, students lacked enthusiasm regarding the science PBL projects. Students favored humanities and social science within the PBL model. When asked about PBL's typical interdisciplinary model, students felt science's part within projects always felt forced (Virtue & Hinnant-Crawford, 2019). As a result, Virtue and Hinnant-Crawford (2019) proposed that PBL would work effectively only when approached from an interdisciplinary view.

Finally, Virtue and Hinnant-Crawford (2019) examined students' overall feelings regarding PBL. The majority of the students in focus groups felt the work was challenging. Students felt a satisfaction, knowing they were engaging in hard work. Additionally, students felt that the work within a PBL model mattered. Completing projects was satisfying, but students liked feeling that their work was important to others within the community. Lastly, students felt the work within the PBL model helped them to mature. Working within teams and with community members helped students to develop stronger communication and interpersonal skills (Virtue & Hinnant-Crawford, 2019).

Habok and Nagy (2016) conducted a study through which they analyzed teachers' voices regarding the project-based learning model. Elementary and secondary teachers completed a questionnaire comprised of 15 questions. A total of 109 participants completed the questionnaire. The questionnaire was developed based on information gathered through informal teacher interviews prior to the study. The first five questions asked for teacher background information, such as age, years of experience, and type of school. The remainder of the questions asked for information regarding teaching methods, classroom management, teacher roles within PBL, and characteristics of a successful lesson and project (Habok & Nagy, 2016).

The results of the study showed that teachers held a preference for cooperative and work-based learning. Teachers viewed their roles as motivating students during projects and

communicating values. Within PBL, teachers do not place as high a value on maintaining order and discipline. Teachers cited atmosphere as key to the success of PBL. Students should be actively leading their own learning, including engaging with the community. Lastly, teachers felt students should play an active role in the evaluation process (Habok & Nagy, 2016).

Researchers Lattimer and Riordan (2011) found that PBL can be more effective than traditional instruction for teaching content mastery in the core disciplines. Additionally, PBL promoted better long-term knowledge retention, improved student mastery, and prepared students to synthesize and explicate academic concepts. Lastly, Lattimer and Riordan (2011) found evidence that PBL students performed better on standardized tests. Lattimer and Riordan (2011) cautioned, however, that PBL should not focus too heavily on the project element. Though it is important that students make tangible products, they must also learn, investigate, and demonstrate knowledge.

Student Retention in PBL Schools

Vesikivi, Lakkala, Holvikivi, and Muukkonen (2019) studied the impact PBL has on student retention. Vesikivi et al. (2019) utilized a mixed-methods research design for the study, including quantitative and qualitative data collection methods. By implementing a mixed-methods design, Vesikivi et al. (2019) were able to gather data on both student experiences and retention rates. Participant data was taken from the 2012-2014 school years, with 942 total participants. Participants were grouped into four categories: international and national information technology programs and international and national media programs. Data was taken from both questionnaires and course completion data (Vesikivi et al., 2019).

The survey consisted of scaled items and open-ended questions. Vesikivi et al. (2019) used the Collaborative Knowledge Practices questionnaire, which includes seven scales: learning

to collaborate, integrating individual and collaborative work, development through feedback, persistent development of knowledge, understanding various disciplines and practices, interdisciplinary collaboration and communication, and learning to exploit technology. Upon examination of the data on first-year retention, Vesikivi et al. (2019) conducted a one-way between subjects ANOVA to compare the effects of PBL on student retention. The results of the study suggested that a change to PBL curriculum improved student retention in the studied schools. Additionally, a PBL environment also helped students to achieve the target number of credits during the first year (Vesikivi et al., 2019). Vesikivi et al. (2019) ended the study by recommending project-based learning courses to bolster student retention rates.

Neumann (2008) conducted a study on a specific project-based learning school located in California. The school, located in the southern area of California, is a charter school that opened in 2000. The purpose of the study was to determine the impact of the school and project-based learning on students. The school enrolls, on average, between 450-500 students in grades 9-12, from each of the city's ten zip codes to ensure diversity and a student body that best represents the city's communities (Neumann, 2008).

For the study of the school, Neumann (2008) developed an ethnographic study in which 30 hours of observations were conducted. Additionally, Neumann (2008) conducted formal interviews with the CEO school director, development officer, and internship director. All interviews were recorded and transcribed. Neumann (2008) also videotaped three classroom lessons, students working independently, and a school-wide presentation of student work. The school's documents detailing school practices, courses, and programs were also reviewed. All student achievement data was acquired from reports from the California State Department of Education (Neumann, 2008).

The school demonstrated high levels of student academic performance, earning perfect scores in 2001 and 2004 on California's Academic Performance Index, a ranking of schools' performance on standardized test scores. The school has a low dropout rate, with an average dropout rate of less than 0.5%. Additionally, each student from the school's first three graduating classes moved on to higher education (Neumann, 2008). The school is an example of project-based learning as an instructional method that boosts student retention.

PBL as Professional Development

Professional development is a vital tool for teacher growth and development (Jacobson, 2019). According to Jacobson (2019), PBL has a positive effect on teaching learning and professional development. Teachers across the United States are often involved in ineffective and generic professional development that often teaches a one-size-fits-all approach to teaching and training (Jacobson, 2019). Jacobson (2019) reported that most teachers report that workshop-style professional development is ineffective and does not further professional learning.

Jacobson (2019) proposed that the most effective teacher professional developments promote active learning, collaboration, and interdisciplinary teaching. Research cited by Jacobson (2019) indicated that effective professional development contains constructivist elements. Constructivism is a theory of how individuals learn. Proper construction of knowledge often occurs collectively in groups, with results from experiences, reflections, and interactions with the world. Project-based learning is classified as a constructivist approach to teaching and learning and is learner-centered, collaborative, and active. A PBL professional development approach was theorized to be more effective compared to past traditional approaches (Jacobson, 2019).

According to Jacobson (2019), 9 out of 10 teachers participated in transmission-style professional development. Transmission-style professional development was shown to have little evidence of improving and changing teacher practice. Additionally, transmission professional development had no effect on student achievement (Jacobson, 2019). Darling-Hammond, Hyler, and Gardner (2017) recommended that teachers would benefit from tenets of PBL as professional development, requiring them to solve problems, collaborate with colleagues, be active participants, and reflect.

Jacobsen (2019) conducted a multi-case study to determine if project-based learning could be used as effective professional development. Jacobson (2019) used convenience sampling to gather participants for the study, because the researcher worked at the study school. Participants were three fifth-grade teachers from an unnamed elementary school. Jacobson (2019) collected data through interviews, belief vignettes, questionnaires, and PBL professional development meetings. Interviews were conducted pre- and post-professional development. Informed consent was obtained prior to the beginning of the case study. The PBL professional development meetings occurred over the course of eight months and utilized the same procedures to ensure accuracy of data gathered. All meetings were recorded and transcribed (Jacobson, 2019).

The interview transcripts, PBL and professional development meeting notes, and vignettes were analyzed according to a data coding template developed by the researcher. Jacobson (2019) utilized both priori coding and emerging coding during the data analysis. In order to ensure objectivity, a peer reviewer aided during the coding process to ensure data was reliable. Additionally, all data were reviewed several times to ensure no discrepancies existed.

Jacobson (2019) also used Hyper RESEARCH software to document the coding process. Hyper RESEARCH is a computer program used to analyze audio data (Jacobson, 2019).

Upon conclusion of the study, Jacobson (2019) found that a PBL approach to professional development was both meaningful and effective. In order for PBL-style professional development to be effective, teachers must receive support from teachers and administrators and consistency in implementation. Reflection post-implementation is also crucial for teachers to develop a deep understanding of the experience. Administrators must also take into consideration the contextual elements of the school. Effective PBL professional development takes into consideration the beliefs and attitudes of staff, cultural norms, and relationships among educators (Jacobson, 2019).

McConnell, Parker, and Eberhardt (2013) conducted a similar study on project-based learning as a professional development method for science teachers. McConnell et al. (2013) titled the professional development program *The PBL Project for Teachers*. The study lasted four years, including 206 teachers ranging from grades K-12. Teachers were grouped into four cohorts, one for each school year. Participants were diverse, representing urban, suburban, and rural schools. Public, private, and charter schools were also represented by study participants (McConnell et al., 2013).

Each round of professional development included two weeks during the summer, in addition to the professional development implemented during the regular school year. *The PBL Project for Teachers* engaged participants in content learning and teaching strategies. Participant knowledge was assessed before and after the professional development workshops. Teachers were placed into groups of five to nine participants. Within the groups, teachers were assigned to work on a problem-based inquiry. Upon completion, participants were assessed to determine

knowledge gained, if any. At the end of the four-year period, 80.5% of the teachers in middle and high school demonstrated increased content knowledge (McConnell et al., 2013).

McConnell et al. (2013) concluded that PBL was an effective strategy for professional development. McConnell et al. (2013) found that PBL-style professional development was better able to meet the needs of a diverse range of teachers. Although participants entered the study with widely differing levels of content knowledge, the majority of participants made significant gains in knowledge upon the conclusion of the study. Teacher growth in knowledge was evident in both the open-ended questions and the ability to apply concepts to real-life situations. McConnell et al. (2013) recommended that future research should study the impact of PBL professional development on additional content areas. McConnell et al. (2013) developed a PBL professional development program for teachers. Upon conclusion of the study, McConnell et al. (2013) determined that PBL professional development serves as an effective method for promoting teacher growth.

Teacher Retention in PBL Schools

As of this dissertation study, no studies exist on teacher retention rates in project-based learning schools. However, a small number of studies have examined project-based learning and the potential for increasing teacher retention. Martin (2019) and Catapano and Grey (2015) suggested that, because students are more excited about and engaged within project-based learning environments, teacher satisfaction will also increase, thus bolstering teacher retention numbers. Catapano and Grey (2015) stated that teachers report higher levels of job satisfaction when provided with opportunities to choose learning activities and develop their own curriculum. Additionally, Martin (2019) discovered that, within PBL schools, teachers are provided with more planning time than their traditional school counterparts. The added time for

planning and collaboration can also increase teacher satisfaction within a PBL teaching role. Finally, Martin (2019) reported that 93% of teachers in a study on project-based learning reported that this methodology of instruction was a worthwhile and wise use of time.

Administrators and teachers in project-based learning schools actively work to foster collaboration among teachers. Jacobson (2019) stated that teacher satisfaction and retention rates were higher in schools that allow for and foster collaboration. In addition to providing common planning and creating interdisciplinary projects, collaborative time also provides teachers with stronger collegial relationships (Jacobson, 2019). Teachers who have formed strong relationships with colleagues often report higher levels of job satisfaction. Strong social bonds with colleagues provides both social support, and opportunities for growth professionally. When school administrators provide opportunities for collaboration, teacher satisfaction rates and retention rates increase, leading to a reduction in attrition (Jacobson, 2019).

Comparison of PBL versus Traditional Models

Strobel and van Barneveld (2009) conducted an analytical comparison of traditional and project-based learning school models. The study utilized a qualitative meta-analysis to compare and contrast the models. Strobel and van Barneveld (2009) concluded that a PBL school model was more effective than traditional school models in developing competent student-practitioners, as well as in promoting long-term knowledge and skill retention. Additionally, Strobel and van Barneveld (2009) found that PBL schools reported higher levels of teacher and student satisfaction compared to traditional schools. Traditional schools, compared to PBL schools, promoted better short-term knowledge retention, a skill needed for standardized testing (Strobel & van Barneveld, 2009).

Günüşen, Serçekus, and Edeer (2014) studied the effects of PBL on nursing students utilizing a PBL method, comparing the results with students utilizing the traditional method. Günüşen et al. (2014) chose a qualitative research design. The Problem-Solving Skills Inventory and Locus of Control Scale were used for data collection. The total number of participants was 680 nursing students. Günüşen et al. (2014) utilized participants from more than one nursing program in order to find more generalizable results. Günüşen et al. (2014) determined that PBL students showed greater problem-solving skills and a higher locus of control compared to that of traditional students.

Anderson, Mitchell, and Osgood (2005) compared biochemistry student performance levels in a PBL environment versus a traditional environment. The sample size for the traditional environment consisted of 381 students, with the PBL curriculum sample size being 39. Anderson et al. (2005) analyzed standardized testing scores, student problem-solving skills, and opinions. Upon conclusion of the study, Anderson et al. (2005) found that students in the PBL group performed at a higher level academically, demonstrated better problem-solving and critical thinking skills, and expressed a more positive experience than their traditional learning counterparts.

Finally, Watmough, Cherry, and O'Sullivan (2012) compared traditional and PBL medical students' self-perceived level of competencies six years after graduation. Participants completed questionnaires with questions regarding their level of preparation as doctors. Watmough et al. (2012) found that PBL medical students reported significantly higher levels of preparedness compared to traditional students. Additionally, PBL students were better able to work in teams and understand evidence-based medicine compared to traditional students.

Traditional students, compared to PBL students, reported higher levels of preparedness in tasks relating to basic sciences, such as disease processes.

Shernoff, Suparna, Bressler, and Schultz (2017) conducted a qualitative study on PBL professional development for science teachers. Shernoff et al. (2017) utilized a qualitative case study approach, studying 17 middle and high school teachers. Participants were nominated for participation by principals based on leadership potential. Of the 17 participants, six were chosen to take part in interviews. Four of the six participants also were provided curriculum to be used during the professional development. The professional development consisted of a summary academy and follow up professional learning communities held once per month in the following school year (Shernoff et al., 2017).

Upon completion of the study, all of the participants indicated that the project-based learning approach to professional development was beneficial to their content knowledge. None of the participants could identify an aspect of the professional development that was not beneficial. Participants reported that common planning and collaborative thinking time aided their content knowledge development, as well as lesson planning. Shernoff et al. (2017) recommended that future studies evaluate how teachers implement learned PBL concepts into classroom instruction (Shernoff et al., 2017).

Han (2013) investigated the impact of science, technology, engineering, and mathematics (STEM) teacher PBL professional development on student academic achievement. PBL professional development has demonstrated success in increasing teachers' self-efficacy, as well as classroom instruction. Teachers reported feeling confident in employing classroom strategies, such as making connections, reframing, clarifying, modeling, and summarizing. Han (2013) found that PBL professional development leads to an increase in STEM teacher content

knowledge. Han (2013) cautioned that PBL professional development can only be successful in increasing student achievement if both teachers and students are bought in to the process.

Upon conclusion of the study, Han (2013) reported that the students of teachers who completed PBL professional development showed more positive attitudes toward learning, increased communication skills, and improved collaborative abilities. Students also experienced increased confidence, self-efficacy, and interest. In a study cited by Han (2013), students who studied in classrooms of teachers training in PBL professional development were less likely to drop out than students in classrooms of teachers without training in PBL professional development. Han (2013) attributed students' positive academic gains to an improvement in teachers' instructional approaches and attitudes due to PBL professional development. Han's (2013) research on STEM teacher PBL professional development revealed that PBL methodology led to an increase in teacher content knowledge and improved student attitudes toward learning.

Teacher Satisfaction across Public, Private, and Charter Schools

Gius (2015) conducted a study to examine teacher job satisfaction in public and private schools. Prior research on teacher job satisfaction was utilized to conduct the study. Five measures of satisfaction were used: teacher generally satisfied, teacher believes teaching is important, teacher is enthusiastic, teacher would not leave school for better pay, and teacher would not transfer to other school. The five measures were evaluated on a four-point scale. Gius (2015) found that public school teachers reported lower levels of job satisfaction than private school teachers.

Dahler-Larsen and Foged (2018) examined job satisfaction in public and private schools as well. Dahler-Larsen and Foged (2018) conducted a cross-section study in which 693 teacher

participants responded to a survey. The teachers came from a total of 45 schools in Denmark. Dahler-Larsen and Foged (2018) conducted 12 formal interviews with teachers, also completing qualitative observations at both public and private schools. Similar to Gius (2015), Dahler-Larsen and Foged (2018) found that private school teachers reported higher levels of job satisfaction compared to public school teachers.

Renzulli, , and Beattie (2011) examined teacher job satisfaction in charter schools, as well as public schools. Charter schools are similar to project-based learning schools due to increased teacher autonomy. Renzulli et al. (2011) theorized that charter schools often attract teachers due to the higher levels of autonomy, which often results in higher levels of teacher job satisfaction compared to traditional schools. As a result, Renzulli et al. (2011) decided to conduct a study to compare teacher job satisfaction levels between charter and public schools.

For the study, Renzulli, Macpherson, and Beattie (2011) utilized the 1999-2000 Schools and Staffing Survey (SASS) and the Teacher Follow-up Survey (TFS). The total number of participants for the study was 2,770 teachers. Of the 2,770 participants, 2,210 came from public schools and 560 from charter schools. Renzulli et al. (2011) found that, compared to traditional schools, charter school teachers reported higher levels of job satisfaction due to higher levels of autonomy.

Project-based learning schools provide greater opportunity for teacher autonomy in planning and curriculum development compared to traditional schools (Catapano & Grey, 2015). Additionally, studies have shown that students in PBL schools demonstrated higher levels of engagement and excitement compared to their traditional school counterparts (Catapano & Grey, 2015; Martin, 2019). PBL schools also provided teachers with greater opportunities for collaboration and cross-curricular lesson planning (Jacobson, 2019). PBL schools were similar

to charter schools, because both environments allowed for teacher autonomy. PBL schools were similar to private schools, because both had demonstrated high rates of student engagement (Martin, 2019). Both private and charter schools had higher levels of teacher retention and job satisfaction compared to public school models (Dahler-Larsen & Foged, 2015; Gius, 2015; Renzulli et al., 2011). Given that PBL schools utilize a combination of both private and charter school best practices for job satisfaction, an examination of retention in PBL schools is needed.

Discussion

Teacher attrition is an increasing problem (Glazer, 2018; Hughes, 2012; Kelchtermans, 2017; Shaw & Newton, 2014; Vagi et al., 2019). Attrition leads to financial burdens (Borman & Dowling, 2008; Brown & Wynn, 2009; Harris et al., 2019), decreased student achievement (Brown & Wynn, 2009; Cross, 2017; Shaw & Newton, 2014), inconsistent school culture (Kelchtermans, 2017; Matteucci et al., 2017), and administrator stress (Roegman et al., 2017). Numerous studies have been conducted to ascertain the causes of teacher attrition. Attrition can be caused by school characteristics and demographics (Carver-Thomas & Darling-Hammond, 2019), low compensation (Carver-Thomas & Darling-Hammond, 2019; den Brok et al., 2017), lack of support and professional development (Carver-Thomas & Darling-Hammond, 2019; den Brok et al., 2017; Sutchter et al., 2016;), lack of student engagement (den Brok & van Tartwijk, 2017; Sutchter et al., 2016), and lack of autonomy and decision-making (Sutchter et al., 2016).

Due to attrition and its impacts, many researchers have focused upon ways to increase teacher retention. Schools can provide competitive salaries (Sutchter et al., 2016; Young, 2018), provide mentoring opportunities (Reitman & Karge, 2019; Sutchter et al., 2016; Young, 2018), ensure ample offerings of professional development (Reitman & Karge, 2019; Sutchter et al., 2016; Young, 2018), create a teacher supply network (Sutchter et al., 2016;), and ensure teachers

receive genuine administrative support (Reitman & Karge, 2019; Young, 2018). Sutchter et al. (2016) studied the effects of retention practices in countries outside of the United States and found an increase in teacher retention.

School administrators can also learn from retention strategies implemented by organizations outside of the field of education. Communication is a key tenet of any plan to increase employee retention (Cloutier et al., 2015; Bussin, 2018). Additionally, research supports the notion of effective and high-level training and development for employees (Cloutier et al., 2015; Deery & Jago, 2014; Shore, 2015). Terera and Ngirande (2014) and Kuhar et al. (2004) proposed the implementation of employee rewards to increase retention. Ensuring employees maintain a proper and healthy work-life balance is also important for organizations seeking to increase retention (Deery & Jago, 2014). Idris (2014) suggested that implementing flexible working hours is key to employee retention and job satisfaction, an idea echoed by Shore (2015) and Bussin (2018). Shore (2015) also recommended that employers provide ample opportunities for growth and advancement.

Project-based learning is a collaborative, inquiry- and problem-based methodology with proven success for students (Tysbulsky & Muchnik-Rozanov, 2019; Virtue & Hinnant-Crawford, 2019). Rather than teachers acting as an authoritarian sent to dispense knowledge, they are able to work alongside students and foster self-guided learning (Gomez-Pablos et al., 2016; Hursen, 2018). Habok and Nagy (2016) found that teachers in PBL schools reported a preference for PBL teaching methodologies. Lattimer and Riordan (2011) discovered PBL to be more effective than traditional schools in teaching content mastery. No studies have been conducted, however, on teacher retention rates in PBL schools.

This dissertation study was conducted to examine the retention rates of PBL teachers. Additionally, the study aimed to develop a list of best practices to facilitate teacher retention. The list of practices can be generalized to other types of learning environments as well. Given the recent upsurge of PBL schools and the proven effectiveness of the model, an examination of teacher retention and attrition rates in PBL schools is needed. High rates of teacher attrition are reported each year; therefore, new approaches must be developed to combat these higher rates. The primary gap in the research is the lack of data on PBL teacher retention rates. Due to the significant lack of research on retention rates in project-based learning environments, this dissertation has been established as necessary.

III. METHODOLOGY

Introduction

This dissertation study is broadly defined as a mixed-methods research study. A convenience sample was utilized to recruit study participants. A convenience sample is defined as a pool of subjects selected because participants are easily accessible (Gall, Borg, & Gall, 1996). The convenience sample included teachers from a network of project-based learning schools across the United States. The network requested to be unnamed throughout the study; therefore, it will be referenced as a *PBL school network*. The PBL school network is the largest network of project-based learning schools in the country. Therefore, the researcher selected this network due to the large number of teachers available for study participants. Additionally, a second sample of participants was taken from the administrators and leaders of the PBL network schools. Interview questions for teachers were appropriated from both the interview protocol adapted from the Zhang and Zeller (2016) study (appropriated with permission from authors) and the protocol from Glazer (2018) (see Appendix D). Both interview protocols had thematic overlap; therefore, the questions were condensed into one protocol. Different questions were asked of administrators due to their differing job expectations and responsibilities.

Administrator questions were appropriated from Knight's (2012) dissertation on teacher retention (see Appendix E). Furthermore, surveys for teachers were used by the researcher (see Appendix C). The survey was originally intended to be utilized with male subjects; however, the researcher administered the survey to both genders. Glazer's (2018) interview protocol for teachers who have left the profession was modified to interview teachers who had left the PBL school network (see Appendix D).

Research Design

The research design of the study was a mixed-methods study. Data were collected through interviews comprised of open-ended questions. A quantitative-style survey, previously published by Godwin (2001), was administered to participants who were teachers. Responses were then analyzed and coded by emerging themes. The study participants were recruited from the PBL school network, which is comprised of 18 schools across the country. At the time of this dissertation study, 518 teachers were employed within the PBL network schools.

Participants

The sample selected for the current study was convenient and purposive. All participants worked within a project-based learning school network of schools in the United States. The unnamed PBL network was comprised of 18 schools across the United States. These PBL schools ranged in age between 1 to 5 years old. An invitation was sent via email to all teachers and administrators within the PBL school network. Interested parties were asked to indicate their willingness to participate via an online survey. Participants were randomly selected from this group of individuals. Thirty-one participants were chosen to complete the survey. Of the 31 survey participants, eight were randomly selected to participate in interviews. Additionally, two administrators were randomly selected to participate in administrator interviews.

Role of Researcher

The utilization of mixed-methods research methodology provides more insight than qualitative or quantitative research alone (Creswell & Poth, 2018). The researcher gathered data through surveys, a quantitative method, and interviews, a qualitative method. According to Creswell and Poth (2018), the researcher is the vital instrument for interview data collection in a research study. Following Creswell and Poth's (2018) lead, the researcher conducted interviews

and gathered data for the study. The researcher utilized questions to guide the interviews and allow for participants to openly share their experiences and opinions.

The researcher for this study had eight years of teaching experience in two school systems in two different states. The researcher had taught grades six through twelve. In order to prevent research bias, the researcher used Creswell and Poth's (2018) bracketing technique. Bracketing occurs when a researcher sets aside preconceived notions on a topic and allows for new insights (Creswell & Poth, 2018). The use of bracketing allowed for an understanding of participants' experiences while minimizing researcher bias.

Measures for Ethical Protection

The study was reviewed and approved by the researcher's university's Institutional Review Board and the PBL school network Institutional Review Board. The study followed the Ethical Conduct of Research outlined in the *Publication Manual of the American Psychological Association* (2010). Participation in the study was not required, and all participants were advised of their right to leave the study at any time without consequence. All participants reviewed and signed the consent form (Appendix A) prior to participation in the study.

Research Questions

The primary questions used to guide this study were:

1. How does a PBL teaching environment influence teacher retention?
2. What factors cause teachers to remain in or depart from project-based learning schools?

Data Collection

Data was collected through analysis of PBL annual report information, interviews, and the administration of surveys. Participants for the study were administrators and teachers in project-based learning schools across the country. The schools were those within the PBL

school network. The researcher utilized an existing survey comprised of questions for participants to answer. The interview questions were open-ended to allow participants to elaborate and expound upon their answers. Responses to the quantitative survey were analyzed for statistical trends and patterns. While the survey questions requested specific information, the interview questions allowed participants to elaborate and explain freely. The responses for interviews were then coded and examined to identify any emerging themes.

The study's research instruments consisted of a survey (see Appendix C: Godwin Teacher Retention Survey) and interviews (see Appendix D: Interview Questions for Teachers taken from Glazer (2018) and Zhang and Zeller (2016); and Appendix E: School Administrator Interview Protocol from Knight, 2012). The survey was administered electronically, and the interviews were conducted over Zoom. Prior to completing the survey, participants were required to indicate consent. Once participants provided consent, they were given access to the survey. Participants were emailed a link to the 31-item, Likert-type survey and were provided specific instructions for completing the survey, as well as an outline of the purpose of the study and deadlines for completion. No compensation or costs were associated with participation in the study. Survey instructions included estimated time to complete the survey, where all data would be stored and saved, how all data would be analyzed, and what would be done with the data. Once the participants completed the survey, the webpage redirected to a scheduling website to schedule an interview. Interviews were conducted via Zoom call and lasted an average of thirty minutes. All conversations were recorded and transcribed. Once transcriptions were completed, the researcher coded the information for themes related to retention.

Instrumentation

An electronic invitation was sent to all study participants. Participants were asked to provide consent to participate electronically. Upon consent to participate in the study, the participants were directed to the survey instrument. The survey instrument was created by Dr. Godwin in 2001. Godwin (2001) designed the instrument to determine factors influencing teachers' decisions to remain in the teaching field (Freeman, 2005). Specific factors included *respect for the profession* and *salary*. The instrument included a 31-item, Likert-type survey, which included a four-point scale with responses ranging from *strongly disagree* to *strongly agree* with a fifth option for *uncertain*, utilized to assist the researcher in determining school aspects related to teacher retention. Items on the survey were ranked individually, rather than by sum score.

The teacher interviews were comprised of 23 questions related to teaching and retention decisions. Questions for the interview were taken from protocols created by Glazer (2018) and Zhang and Zeller (2016). Zhang and Zeller (2016) created the interview protocol by adapting a previously created interview protocol by Johnson and Birkeland (2003). Within the interview protocol, nine variables were examined: age, career plans, having children, ethnicity, gender, level taught, marital status, parents' occupations, and preparation type (Zhang & Zeller, 2016). Glazer's (2018) interview protocol focused primarily upon decisions to leave the teaching profession. Examples of questions included: "What were your relationships like with colleagues?", "How often did you see other teachers teach?", and "What do you enjoy about your current job?".

The administrator interviews consisted of seven questions related to practices implemented to recruit and retain teaching staff. Interview questions were taken from Knight's

(2012) protocol. Questions in the protocol included: “What procedure or strategy that was implemented has made an impact on teacher satisfaction and retention?”, “How do you support your teachers?”, and “What types of behaviors do you think administrators should exhibit that would positively impact teacher retention?” (Knight, 2012). The purpose of the interview protocol was to determine what administrator-controlled factors had an impact on teacher retention.

Instrument Reliability and Validity

Godwin’s Teacher Retention Survey (Appendix C) was validated through expert review. Two researchers working in the area of teacher retention reviewed the instrument. One reviewer helped to design the instrument, while the other served as an expert reviewer. A test study was conducted to test the instrument. Upon completion of the test study, the instrument was revised according to the data. The validity study produced an alpha coefficient of .8270 for observer agreement reliability (Godwin, 2001).

Knight’s (2012) interview protocol for administrators was examined for both reliability and validity. To check for validity, Knight employed member checking and peer debriefing. Knight provided participants transcripts for all interviews to check for validity. Additionally, Knight used triangulation, a process through which a researcher can ensure data analysis is trustworthy and accurate. Zhang and Zeller’s (2016) interview protocol was checked for reliability and validity. The researcher in this study transcribed all interviews and asked participants to verify the accuracy. Additionally, Zeller (2016) coded the interview responses. Upon completion of coding, the researcher asked a third party to review coding to verify results.

Procedures

The first step in the study was to conduct a thorough review of the literature related to the aim of the study. Upon completion of the literature review, the researcher obtained Institutional Review Board (IRB) approval from Southeastern University to conduct the study. IRB approval was obtained from an unnamed PBL school network. An invitation (see Appendix A) was sent via email to all teachers and administrators employed within the PBL school network providing the link to informed consent (see Appendix B). Individuals who indicated willingness to participate received a link to the survey. If an invitee indicated they do not wish to participate, he or she did not have access to the survey. Of the invitees who indicated informed consent and then completed the survey, random selection was utilized to create the pool of interview participants. The researcher then contacted the randomly selected interview participants via email to schedule the interviews. The researcher conducted the interviews through Zoom and coded the interviews for themes. The researcher emailed the interview participants a digital copy of the interview summaries and coding to review, ensuring the intent of the responses was accurately captured. Participants were given three days to respond. A positive response or lack of response indicated verification; however, if participants responded with disagreement, suggested changes were implemented in the data. To ensure objectivity, because the researcher worked in a project-based learning school, an outside party was asked to review the survey and interview responses prior to coding. The outside party also verified the coding to ensure accuracy. The themes and information gathered in the study were then compiled into a formal report that detailed the results, as well as posited potential solutions to teacher attrition.

Data Analysis

After the interviews and survey were completed, the researcher transcribed all interviews. The researcher then analyzed the transcripts to determine themes within teacher perceptions of their school environments, as well as common rationale for remaining with PBL network schools. The information identified specific practices and environmental factors leading to increased retention and teacher job satisfaction. Additionally, survey data was statistically analyzed to determine correlations between demographic data and retention factors.

Summary

This mixed-methods study examined teacher retention in the unnamed project-based learning school network. The researcher interviewed administrators and teachers in PBL network schools to determine factors contributing to teachers' decisions to stay. Additionally, surveys were administered to obtain basic demographic information, teaching history, and the relevance of specific retention factors. This dissertation study helped to shed light onto the topic of project-based learning schoolteacher retention. From the information gathered by surveys and interviews, the researcher was able to produce a report that will inform both PBL and traditional schools of the best practices to foster and maintain teacher retention.

IV. RESULTS

Introduction

The purpose of this study was to examine teacher retention in project-based learning schools. The study examined a specific project-based learning school network in the United States. A limited amount of research describes teacher retention in project-based learning schools. The goal of the study was to determine if teacher retention is high in PBL schools and, if so, ascertain retention practices that could lead to teacher retention in various types of schools. Data were examined through three conceptual framework models: Price and Mueller's (2001) three variable model for attrition and retention, Vagi and Pivovarova's (2016) organizational theory of attrition, and Glazer's (2018) self-efficacy theory of attrition. A mixed-methods approach was implemented for the study. Survey and interview data provided insight into factors in PBL schools that bolster teacher retention. Chapter IV provides a summary of the data and results of the mixed-methods research study.

Research Context

The study focused on factors relating to teacher retention in project-based learning schools (PBL). The potential participants for the study were all employed within a specific PBL school network. The PBL school network was chosen due to the number of schools within the network. A total of 18 schools were included in the school network. Given the size of the network, a large number of potential participants was available to the researcher.

Population and Sample Size

The researcher employed convenience sampling to gather study participants. The population for the study consisted of 518 teachers employed within a PBL school network. All potential participants were emailed invitations to participate, including the informed consent

document. Upon indicating informed consent, participants were directed to the survey. Of the potential participants, 31 indicated informed consent and completed the survey. Overall, a 15% response rate was achieved for the study. Of the 31 survey participants, eight were randomly selected for the interview. An online name generator tool was used to randomly select interview participants. Of the initial eight participants, seven scheduled interviews. A second round of random selection was employed to determine the eighth participant.

Method of Data Collection

Following the PBL school network providing consent, data were collected from survey responses on Google Forms, as well as from eight individual interviews. The researcher sent an email invitation requesting potential subjects' participation in the study. Invitations were sent to teachers at nine PBL school network schools, as well as to teachers who left PBL school network schools. Surveys and interviews were completed in October and November of the 2020-2021 school year. The survey participants and interviewees were all high school teachers. The survey instrument and interview protocols were chosen to address the following research questions:

1. How does a PBL teaching environment influence teacher retention?
2. What factors cause teachers to remain in or depart from project-based learning schools?

Surveys were administered via Google Forms. Prior to completing the survey, participants were required to indicate informed consent via a survey on SurveyMonkey. Indication of informed consent allowed participants access to the Likert-ranked survey (Appendix C); invitees who did not indicate informed consent to participate were not allowed access to the survey. The instrument consisted of a 31-item, Likert-type survey. A total of 31 participants completed the survey. Upon completion of the survey portion of the study, responses were analyzed. Within each item, percentages were calculated for *strongly*

agree/agree and *strongly disagree/disagree*. The totals for the two categories were each divided by the total number of participants to determine the importance placed upon each Likert-ranked item.

The interview protocol (Appendix D) consisted of 23 questions, which guided the interviews. Participants’ responses were recorded during the Zoom interview meetings, and the researcher took notes throughout the interview process. After each interview, the researcher transcribed the meeting recordings using Otter.ai software. Upon completion of the transcriptions, the interviewer watched the recorded interviews while comparing to the Otter.ai transcriptions. Corrections were made as needed. Transcriptions and notes were shared with participants in order to ensure accuracy. Interview participant professional demographic data is outlined in Table 1.

Table 1

Interview Participants’ Professional Demographics

Participant Number	Teaching Experience	Degree Status	Content Area of Certification	School Level
1	6-9 years	Bachelor’s	Mathematics	High School
2	15-19 years	Master’s	Social Studies	High School
3	3-5 years	Master’s	Science	High School
4	15-19 years	Master’s	Science	High School
5	15-19 years	Bachelor’s	History & Science	High School
6	6-9 years	Master’s	Mathematics	High School
7	15-19 years	Master’s	English	High School
8	3-5 years	Master’s	English	High School

The researcher began each interview by confirming the participant’s agreement to be interviewed and recorded. Once consent was obtained, the researcher began recording and asked again for consent to be recorded. The researcher conducted all interviews remotely via the Zoom

platform. All interviews followed the interview guide found in Appendix D. The researcher also took notes on the Google Docs platform. All notes and recordings were stored on a password-protected file on the researcher's password-protected laptop. Upon completion of interviews, all interview recordings were uploaded into the Otter.ai app for transcription. Once transcriptions were verified by the researcher, the transcripts, coding, and notes were then sent to the interviewees for verification.

Findings

Survey

A 31-item, Likert-ranked survey was administered to 31 total participants. Items were ranked *strongly disagree*, *disagree*, *agree*, *strongly agree*, or *uncertain*. Example items from the survey included *camaraderie among peers* and *positive work environment*. Survey data analysis revealed eight factors strongly influencing teachers' decisions to remain within their PBL network school. Responses for *strongly agree* and *agree* were added together then divided by the total number of participants in order to determine the percentage of participants indicating agreement that a factor played a role in retention decisions. Similarly, responses for *strongly disagree* and *disagree* were added together then divided by the total number of participants to determine the percentage of participants indicating disagreement that a factor played a role in retention decisions. Averages for both *agree* and *disagree* were utilized in order to determine which factors played an overall role on retention, regardless of degree of agreement. Strong influence was indicated if the percentage of participants' agreement was over 80% (see Table 2). Sixteen of the 31 items indicated moderate influence. Moderate influence was assigned to factors in which 60-79% of participants indicated agreement. The 16 items were chosen with over 60% of participants indicating the factors influenced the decision to remain in a PBL

network school (see Table 3). The results of the survey provide information relating to what factors influenced teachers' decisions to remain in a PBL school.

Table 2

Factors with Strong Influence on Retention Decision

Factor	Percentage of Participants Indicating Agreement (at least 80%)
Contributions to others	93.33
Love of children/students	90
Love of subject area	86.66
Collegial support/camaraderie	83.33
Job security	83.33
Success in my profession	83.33
Positive work environment	80
Intellectual challenge of the profession	80

Table 3

Factors with Moderate Influence on Retention Decision

Factor	Percentage of Participants Indicating Agreement (60-79%)
Teacher autonomy within profession	73.33
Holidays/leave pay	73.33
Summers off	70
Administrative support	70
Professional growth	70
Comfortable with location	70
Respect for the position	60
Professional position	60

Teacher Interviews

After verifying the accuracy of the transcripts, the researcher assigned each participant a numerical identifier for coding purposes. The researcher read through each transcript several times in order to fully understand and comprehend the gathered data. Each transcript was then coded and analyzed to determine themes that aligned with the two research questions guiding the study. The researcher also looked for themes that aligned with survey data and the literature review. The researcher wrote notes in the margins of the interviews, as well as in a Google Document, in accordance with Creswell and Poth's (2018) method. A list of emerging themes was kept in the Google Document as well. As categories emerged within the themes, the researcher began to sort each theme. The final categories were narrowed to 5 themes, as shown in Table 4.

Table 4

Themes Emerging from Interview Data

Theme	Description
Colleague Interactions	Experiences with and feelings toward colleagues
Administrative Support	Administrator support in and outside of the classroom
Student Interactions	Teacher experiences with and feelings toward students
Autonomy	Teacher feelings of and experiences with autonomy in the classroom
Motivation	Motivation factors relating to teacher retention and desire to stay

Theme 1: Colleague Interactions

Each of the eight interview participants placed importance on colleague interactions within their respective PBL schools. Within the theme of colleague interactions, each participant reported development of camaraderie with peers as being important to retention decisions. Participant 1 cited the importance of a colleague with whom they spent each break.

Participant 1 stated that having someone to sit and have conversations with provided a feeling of being “less like a teacher and more like a human being” in the midst of spending the entire day with teenagers. Participant 3 cited the formation of relationships with colleagues as a factor strongly relating to the decision to stay. According to Participant 3, “many of us have developed friendships outside of our work environment, and that’s another thing that has kept me at my school. It’s the colleague relationships.” Participant 4 cited after-hours Friday staff gatherings as a positive factor, stating “it’s one of the best things we do.” Participant 5 said, “I worked at my previous school for seven years, and I feel that, in my first year here, I had a better relationship with more teachers in the new school than I had in the old school”. Additionally, Participant 5 expressed that “there just seemed to be a better support level and camaraderie” in the PBL school. Participant 8 stated that “there’s a baseline of I feel like I can fit in. I feel accepted. I think a lot of my school relationships, I get along with them well.” Throughout each interview, participants referenced the importance of forming relationships and friendships with colleagues as a factor relating to retention

In addition to formation of camaraderie, participants also placed value on peer support. When asked about seeking support from peers, Participant 1 stated, “They’ve been great sounding boards on ideas...giving me great feedback and responses and just checking in on me.” Participant 2 described colleagues who regularly ensure they “have the prior knowledge” to implement new strategies and expectations. Additionally, Participant 2 reported a coworker who makes them “feel challenged to do [things] and inspired that it is possible” to do PBL learning even when it is challenging. Participant 3 reported similar feelings and stated:

If I need pedagogical help with ‘how do I diversify my lessons and scaffold in a way that I can reach all my learners in one classroom, I know that I can go to [her] without

judgement if I don't know what I am doing. I can go to them and they will be more than happy to help me out.

The PBL school in which Participant 4 teaches has “a better support level” than their previous schools. Participant 4 reported enjoying the collaborative effort found in their school and stated, “we collaborate every single day. So that is awesome.” Participant 4 also stated, “My coworkers, that's huge for me” as a reason for staying in their PBL school. Echoing previous participants, Participant 8 stated, “I feel like I can approach anyone. I could collaborate with anyone. I think I could ask for help or reach out to anyone. There is a general openness and respectfulness amongst the staff that I feel a comfort level.”

Theme 2: Administrative Support

Regarding administrative support as a theme, administrative support refers to assistance and motivation from the school's leadership team for teachers inside or outside of the classroom. Four of the interview participants reported high levels of administrative support. Participant 1 felt they could go to the administrators in their school if they had any issues. Participant 2 felt that the administrators in their school “support us as people outside of the classroom” and that the support of teachers' personal lives “is exceptional in this school specifically.” Echoing their statements relating to peer support, Participant 3 stated, “I know I can go to our administration whenever I need help...without any sort of penalty if I don't know what I am doing. They will be more than happy to help me out.” Upon beginning in their PBL school, Participant 5 felt they experienced an above average level of administrative support. Despite feeling “like a fish swimming upstream” in their last school, Participant 5 reported feeling “supported in a lot of ways” by administrators in their PBL school “to do things a little differently” in the classroom without fear of repercussions. According to Participant 5, in

their PBL school, administrators provide “a lot of support for rethinking school and trying new things.” Participant 6 reported that their PBL school “provides an above average level of support” and that “administration is really great about communicating with us and making sure we have what we need emotionally and physically.” When asked what factors cause Participant 6 to stay in their school, they said “the administration . . . how supported I feel honestly.”

While the majority of participants reported feeling supported by administrators within their schools, seven reported a lack of formal observations by administrators. Seven participants reported a strong desire to be observed by administrators. Participant 1 reported being observed once in the two years they had been teaching in their PBL school. Participant 3 reported only undergoing “informal observations, and I’d say we’ve only had one or two of those” in the last two years. Participant 4 has not had a full observation in their school. Participant 7, when asked how often they were observed by administrators, said “not that much . . . as far as staying for a significant amount of time, not that much.” Participant 8 reported being observed twice in their 2 years at their PBL school.

Finally, some participants expressed a lack of clarity from administrators within their PBL schools. Participant 1 reported a lack of clarity from administrators in how to teach PBL specifically in a math class stating, “I can’t really get specific help on a specific area in my content, because most of the time, they don’t know about it.” Participant 1 also expressed a desire for an administrator with previous teaching experience in the math content area. Participant 3 reported feeling a lack of clarity from administration in regard to the school’s focus on competencies. According to Participant 3, “We still don’t know how to effectively evaluate and administer those competencies to students.” Participant 8 reported feeling a

“vacuum” in support for teachers, stating “I think it’s like the one spot the school could grow in the most.” Participant 8 also said, “I would love to feel a lot more supported.”

Theme 3: Student Interactions

Each of the eight participants expressed positive experiences and feelings with regards to students in their PBL schools. When asked how teaching in a PBL school compared to their expectations prior to beginning work, Participant 1 stated, “The bonds I create with the students, they have exceeded my expectations . . . the pros of having the bonds with the students outweighs any other aspect that, you know, might taint the field.” For Participant 1, success as a PBL teacher was directly correlated to “when I’m able to ask students, especially the ones who struggle most, about different concepts that [were] taught and they’re able to explain things in their own words, rather than just repeating verbatim.” Participant 2 reported going into teaching at the high school level, because they “love teenagers and talking about social studies with teenagers.” Participant 2 reported loving seeing “the kids’ ability to describe their learning in terms of the projects and the competencies, like the skills they’ve developed through it.”

When Participant 3 was asked why they remained in their PBL school, they stated, “I loved the kids.” Participant 3 also expressed a desire to see students enjoy themselves and for learning to be “memorable for them.” Participant 4 reported enjoying “the relationships with the kids” as a factor influencing their desire to stay at a PBL school. Participant 5 stated being motivated by seeing kids “have fun” during project work and watching students recognize the impact projects can have on their own communities. Participant 8 reported becoming a teacher, because they loved having “the ability to connect with teenagers” and to impact kids “with a variety of needs.” When asked why they chose to remain in their PBL school, Participant 8 stated, “It’s kind of cliché, like I really love the kids I teach. It’s like a little slice of heaven to

see kids interact in really beautiful ways and watch them be around kids who would never meet each other” if they were not in their PBL school.

Theme 4: Autonomy

Autonomy within a school has been linked to teacher retention (Garcia, 2018). The notion of autonomy as a predictor of teacher retention was supported by data collected in the interview portion of the study. Participant 1 mentioned feeling they have total autonomy within their PBL classroom. Participant 2 reported feeling freedom to try anything within their classroom, within reason. Additionally, Participant 2 reported feeling openness within instruction and the license to continuously try new things and change the classroom format. According to Participant 3, teachers within their school “have full autonomy” and “are regarded as experts within our fields and are given the autonomy to choose how we assess.” Additionally, Participant 3 reported teachers have “full autonomy” in what is put into projects and how projects are graded.

Participant 4 reported that teachers have been told “you can do what you think is best for the kids” and “if you don’t cover all of the standards, that’s fine.” Similarly, Participant 5 reported feeling freedom to try new things. According to Participant 5, their principal only seems to care about ensuring student safety and lack of legal ramifications. Participant 5 reported having total autonomy as long as they “can show them students are learning and I’ve considered the possible negative consequences. I’m very supported here.” Participant 6 also feels a high level of autonomy within the classroom, stating that their school “trusts the teachers. I do not feel like it is micromanaged at all.” Aside from being required to work with other teachers on projects, Participant 7 stated that teachers have autonomy. Last, Participant 8 reported that teachers within their PBL school have the administration’s trust and full autonomy

within the classroom. A thorough analysis of the interview data revealed that all eight participants feel freedom within their own classrooms, leading to feelings of job fulfillment.

Theme 5: Motivation

Each of the eight participants reported specific internal motivation factors relating to their decisions to teach in a PBL school. According to Participant 1, they initially resisted becoming a teacher, despite pressure from friends. Participant 1 reported deciding to make a career switch, because they saw opportunities to make a positive impact on society, but more specifically, their community. According to Participant 1, their goal

was always to give back to people from my community, the black children who have to be raised by the community center. I also want to focus on young girls and STEM. I figured education would give me the best route to be connected with people to help make that a reality.

Participant 1 stated they would remain in their PBL school, because they can see the difference PBL learning makes in the lives and futures of their students.

Participant 2 reported a desire to innovate and change the way students learn. Additionally, Participant 2 stated they felt drawn to the diversity often seen within PBL schools, stating, “I feel I see kids who are different, like all different ways . . . just their personalities, their racial identity, and their gender identities . . . socioeconomic class, and their experiences and interests.” According to Participant 2, their school utilizes a lottery system for admission, allowing for students from all over the city to become a part of the student body. Lastly, Participant 2 reported coming to their PBL school because of “what project-based learning would mean in [the city’s] educational landscape.” Participant 2 stated knowing that

PBL learning would make a positive impact in the lives of their city's students was important to them.

Participant 3 reported being motivated by a love of their content area. Upon teaching their first year at a PBL school, Participant 3 reported feeling drawn to the way students develop “an appreciation for the subjects.” Participant 3 reported they enjoyed the ability to convey their love of the subject to students. Similarly, Participant 4 stated they were motivated by the love of their content area. Additionally, Participant 4 reported loving how diverse the PBL school was compared to previous traditional schools. Participant 4 stated, “The population is a lot more diverse, from every aspect . . . socioeconomic and racial and background knowledge.” Participant 4 stated they were also drawn to the school because of its student engagement.

Participant 5 was motivated to join a PBL school, because the job would allow them to share content with students in unique ways. For example, in a unit on Appalachian history, Participant 5 reported working with students to tan deer hides, a project that resulted in a pungent odor but also in student engagement and enjoyment. According to Participant 5, they also enjoyed the atmosphere of innovation, reporting that teachers often work together to troubleshoot projects and to develop ways to make projects better for the following school year. Last, Participant 5 reported they sought out and stayed in their PBL school because of the real-world impact students and projects have on the outside community. Participant 5 stated students will “never go back to being a normal student. They're going to say ‘look . . . I can find problems and fix them.’ I can change peoples' lives.”

When first beginning PBL work in their school, Participant 6 reported being motivated by the lack of emphasis on test scores. Participant 6 also stated they enjoyed the freedom to teach

students without administrative pressure for students to perform at a specific level on state standardized tests. Additionally, Participant 6 reported being drawn to the collaborative atmosphere found among PBL teachers. Participant 7 stated they came to a PBL school for similar reasons. Participant 7 reported they saw that “something’s not working” in the education system and its emphasis on test scores. Participant 7 reported enjoying the freedom to teach their content area to students without having to teach to the test.

Participant 8 reported being “drawn to the human interaction of teaching” and “the ability to connect with teenagers.” Participant 8 stated they were also motivated by “the creativity and the challenge” of teaching in a PBL school. In addition to these factors, Participant 8 reported they sought out a PBL school because of “the idea of offering high quality education to low-income students . . . and reimagining school to actually fit the needs of real students.” According to Participant 8, their school also utilized a lottery system, allowing for students all over the city to come to their school. Last, Participant 8 reported feeling drawn to the PBL school, because it allowed for professional growth and the provision of education to all students, regardless of background.

Interviews of Teachers Who Left PBL Schools

Two teachers who left a PBL school network school volunteered for the study and were interviewed. Both participants taught in a PBL school network school for one year. The interview protocol was adapted from a protocol developed by Glazer (2018) for teachers who left their teaching positions (see Appendix F). Examples from the interview protocol include: “How did your experience compare to your expectations going in?”, and “What did you enjoy the most about the job?” Interviews were conducted in November 2020 via the Zoom meeting

platform. To ensure confidentiality, the two participants were labeled Participant 9 and Participant 10.

Both Participant 9 and Participant 10 expressed a lack of clarity and organization in their PBL school network schools. Participant 9 stated, “We were definitely building the plane as we were flying it.” However, Participant 9 attributed the disorganization to “just growing pains.” Participant 10 echoed this stating, “There was a lack of organization and structure, which required a lot of attention from the staff.” Both participants attributed the lack of organization to their schools being new. In addition to a lack of organization and clarity, both participants also acknowledged a distinct lack of formal observation. Participant 9 stated, “I was never formally observed. I definitely wanted more. I would have, I feel like, benefitted from more.” Participant 10 stated they were “never observed formally in my classroom or given any feedback on my performance as a teacher.” Seven participants in the current PBL teacher pool reported a lack of formal observation by administration, a finding that aligns with the data presented on former PBL teachers.

While Participant 9 expressed a lack of organization and observation, they largely expressed a love for their former PBL school network school. Themes from Participant 9’s interview included camaraderie, student engagement, professional growth, and autonomy. Participant 9 reported a sense of camaraderie with their coworkers, saying “still to this day, they are some of my best friends. I am still cool with everybody that I worked with and still keep in contact with most of [them].” Participant 9 stated one of the school’s strengths was the lack of focus on test scores. “More focus was put on student engagement and the quality of the student products from their projects.” Participant 9 also reported the school placed a high value upon the staff’s commitment to growth.

If I had to pick a singular favorite thing professionally, it would be being part of a true professional learning community amongst teachers and staff. That's something I've missed. That's something I really appreciated, being able to collaborate with other teachers within and outside of my discipline.

According to Participant 9, their PBL school network school provided a high level of autonomy. Participant 9 reported, "We had the autonomy to formulate whatever we wanted to." While autonomy provided freedom within their classroom, Participant 9 shared this freedom meant having to largely figure out their role and responsibilities on their own.

Toward the end of the interview, Participant 9 emphasized that they missed their PBL school stating, "I miss the connection and being part of a professional learning community." Participant 9 reported they had "no intention of leaving" their PBL school but were offered a teaching job at their alma mater, an offer that was hard to turn down. To conclude the interview, the researcher asked Participant 9 what they would say to someone who was interested in teaching in a PBL school network school. Participant 9 stated,

You have to be open minded and flexible and have the mental dexterity to stretch in ways you never thought you would have to stretch before. Be willing to give up any pride you have about the authenticity of the content in the way that you interpret it, because it can look 1000 different ways, and you'll never know if you don't try to think about it differently.

Last, Participant 9 stated that they have thought about returning to a PBL school network school.

Participant 10 acknowledged that working in a PBL school network school was not for them due to "the lack of guidance and support." Participant 10 left the teaching profession altogether upon leaving their PBL school network school. When asked if they had thought about

returning to their PBL school, Participant 10 stated, “I would seek an opportunity to teach within a traditional school.” Participant 10 reported feeling they were better suited to a traditional teaching methodology, rather than PBL. The themes that emerged from Participant 10’s interview included creativity, passion, student engagement, and lack of support.

Participant 10 reported feeling that the PBL classroom “provided a lot of room for creativity and fun.” Teachers within their PBL school were divided into cohorts and provided the freedom to create their own bell schedules and culture. Participant 10 expressed that the teachers within their PBL school network school “were passionate about education.” Teachers in their school continuously sought opportunities to “try new educational practices.” Participant 10 “enjoyed the students the most,” stating that their PBL school “is home to an incredible group of young adults who are brilliant and hard working.” According to both Participant 9 and Participant 10, student engagement was high in their PBL school network schools.

According to Participant 10, the largest issue within their school was the lack of support provided to teachers. According to Participant 10, the principal at the time provided “vague directives and a lack of policies” that took teachers’ attention away from the classroom. Additionally, Participant 10 sought “guidance and mentorship but was not able to find these opportunities even when I explicitly requested them from leadership.” Although the principal left the school after four months, Participant 10 knew they “would not return the following semester within the first month of teaching.” Upon conclusion of the interview, Participant 10 acknowledged, “I do not believe my experience at one [PBL school network] school is an appropriate sample size to determine the success of other PBL school network schools.” Participant 10 encouraged “experienced teachers looking for opportunities to try new educational practices to pursue teaching within the network.”

Administrator Interviews

Two administrators from PBL school network schools participated in the study. To ensure confidentiality, names were changed to Administrator 1 and Administrator 2. The administrator interview protocol was taken from Knight (2012). Examples of questions included, “What procedure or a strategy that was implemented by your school administration, you believe made an impact on teacher satisfaction and/or teacher retention?” and “As an administrator, how do you support your teachers?”. Both administrators reported high levels of teacher retention within their PBL school network schools.

When asked what procedure had made the biggest impact on retention, Administrator 1 reported “giving teachers freedom and latitude to develop their own classroom experiences.” Administrator 1 believed this strategy worked because

many teachers have come to [PBL school network school] from schools that prescribed what and how they were to teach in their classrooms, and that those teachers were looking for a place where they could use their creativity to respond to learner needs. According to Administrator 1, PBL school network teachers tend to desire to deviate from a traditional model of instruction. Administrator 1 believed their school had high retention rates, because administration has created “an environment where everyone has the ability to create and contribute to the development of the school. Teachers who come to us with ideas are often given the freedom and support to try them.”

Administrator 1 felt that “teachers need to feel like they are part of a team that they care about not letting down. Once they care about the mission of the school, they can identify their unique gifts and how those can be put to use.” According to Administrator 1, once teachers’ unique gifts are identified, administration should then come alongside teachers and provide

support that enables teachers to put their talents to use. Administrator 1 reported actively working to “get to know who a teacher is and help them feel like they’re part of something important.” When asked what types of behaviors administrators should exhibit to positively impact retention, Administrator 1 said authenticity and empathy, stating, “Just be yourself and care about people. That leads to the development of relationships. It’s harder to leave a relationship than a job.”

Administrator 2 attributed their school’s high retention rates to “a mindset of empowering teachers, treating people fairly, and making everyone feel like they are partners in a movement for the greater good.” Administrator 2 believed that fair treatment of staff builds loyalty within a school. Collaboration among teachers and staff was emphasized by Administrator 2 as an important factor for fostering retention. Collaboration can lead to further empowerment of teachers within a school. Similar to Administrator 1, Administrator 2 tries “to develop relationships with everyone.” According to Administrator 2, former bosses modeled for them what an empathetic leader should look like. Administrator one stated, “I think that schools focus a lot on the execution of plans and not enough on the human side of relationship building.” Administrator 2 tries to support teachers “as an advisor rather than an old school boss. Generally, this has worked, and teachers have stayed within the organization.” When asked what types of behaviors administrators should exhibit to positively impact retention, Administrator 2 said “kindness, flexibility, willingness to listen, and empathy.”

Upon completion of the administrator interviews, two primary themes emerged: relationships and autonomy. Both administrators placed importance on cultivating relationships with teachers. According to both administrators, when relationships are built, teachers feel free to share ideas and open up to their administrators. Additionally, both administrators stated that

they believed in providing their teachers with the freedom and autonomy to make their own decisions within the classroom. However, each administrator also ensured teachers knew they were available for support and guidance.

Evidence of Quality

Validity

The researcher implemented three primary strategies to validate the results of the study. First, interview participants were asked to review the transcript data to ensure accuracy. Additionally, the researcher sent participants notes taken throughout the interviews. Second, the researcher followed Creswell and Poth's (2018) method of peer review. Both survey data and interview data were reviewed by a peer methodologist to ensure accuracy. Third, Creswell and Poth (2018) also suggested researchers remove themselves from the topic of study by bracketing personal experiences to avoid prior assumptions relating to the data gathered.

Survey validity and reliability were previously established through expert review. Godwin's (2001) survey was reviewed by two researchers working in the area of teacher retention. Additionally, a study was conducted to test the instrument. The study produced an alpha coefficient of .8270 for observer agreement reliability (Godwin, 2001).

The interview protocols were both checked for reliability and validity (Knight, 2012; Zhang & Zeller, 2016). All interviews were transcribed upon completion of the interview portion of the study. All interview participants were asked to review transcripts and notes for validity of responses. Upon approval, the researcher coded interview responses to search for emerging themes. Last, the researcher cross-checked the coding of the survey and interview data to ensure alignment of results, as well as to ensure the results aligned to the research

questions. The researcher followed Creswell and Clark's (2010) triangulation method. According to Creswell and Clark (2010), the purpose of triangulation is to ensure corroboration of results from mixed methods, such as surveys and interviews. Triangulation involves collected data that is different but complementary in order to better understand a research topic.

Summary

The purpose of this study was to determine factors influencing PBL teachers' decisions to remain within their respective PBL schools. Chapter IV presented survey and interview data from PBL teachers within a PBL school network. Additionally, interview data from PBL school network administrators and former PBL school network teachers was presented. Interview transcripts were coded, and information was grouped into five primary themes relating to PBL teachers' decisions to stay within their PBL schools. The five primary themes were: colleague interactions, administrative support, student interactions, autonomy, and motivation. Survey data for each Likert-ranked item were grouped into *agree* or *disagree* frequencies to determine percentages. The following categories were ranked *agree* or *strongly agree* by over 80% of participants: intellectual challenge of the profession, collegial support/camaraderie among peers, positive work environment, love of children/students, love of subject area, job security, success in my profession, and contributions to others. Implications derived from the research study, as well as suggestions for further research, are presented in Chapter V.

V. DISCUSSION

Introduction

This study was designed to determine factors relating to teacher retention in project-based learning (PBL) schools. A study into factors that can be utilized to bolster retention rates was needed because teacher attrition has become an increasingly challenging problem within United States schools (Choi et al., 2019; Kelchtermans, 2017; Martinez et al., 2010; Roegman et al., 2017; Sass et al., 2011). High rates of teacher attrition have been linked to decreased student performance, low staff morale, and higher levels of administrative stress (Choi et al., 2019; Kelchtermans, 2017; Martinez et al., 2010; Roegman et al., 2017; Sass et al., 2011). Each year, the number of vacant teaching positions in schools increases (Carver-Thomas & Darling-Hammond, 2019). Therefore, a study was needed to examine factors relating to increased teacher retention. This study examined teacher retention specifically in project-based learning schools within a PBL school network. Little research currently exists regarding retention within PBL schools; therefore, the researcher sought to provide insight regarding teacher retention practices within PBL schools. The results of the study could be generalized to non-PBL school environments.

Methods of Data Collection

The purpose of the study was to determine factors relating to teacher retention within project-based learning schools. The researcher collected data for this study through the administration of surveys and interviews. The researcher first sent an email invitation requesting

potential subjects' participation in the study. Upon indication of consent, participants were provided with a link to the survey. If a potential subject did not provide consent, no survey link was provided. A total of 31 participants completed the survey. The survey consisted of 31 Likert-ranked items. The researcher utilized a randomizer to randomly select eight participants for participation in a Zoom interview. The interview protocol consisted of 23 open-ended questions. Upon completion of the interviews, the researcher transcribed the recordings; and, interview transcripts were then shared with participants to validate accuracy.

Summary of Results

The study added to the existing literature regarding teacher retention. The study also contributed to the literature regarding teacher retention in project-based learning schools. Upon analysis of the results of the study, the researcher found that PBL schools provide a unique teaching environment, allowing for autonomy within the classroom, student participation in the teaching and learning process, and opportunities for collaboration and interdisciplinary lessons. Although the PBL schools did share commonalities with traditional school environments, the researcher found retention practices that differed. The results of the study are as follows.

Themes

The results of the survey and interview data collection were grouped first into categories within each instrument. The survey results yielded the following themes: positive student interactions, camaraderie among colleagues, work environment, benefits, and intrinsic motivation. The interview transcriptions and coding yielded the following themes: colleague interactions, administrative support, student interactions, autonomy, and motivation. The preliminary themes were then analyzed and grouped into six final themes: colleague relationships, work environment, positive student interactions, intrinsic motivation, benefits, and

autonomy. The final themes were determined through a review of the interview coding and the survey results. Survey results for both moderate and strong influence on retention were considered in developing the final themes.

Discussion by Research Questions

Research Question 1: How does a PBL teaching environment influence teacher retention?

Project-based learning schools may experience higher levels of teacher retention compared to traditional school environments (Catapano & Grey, 2015; Habok & Nagy, 2016; Jacobson, 2019; Martin, 2019). Martin (2019) and Catapano and Grey (2015) suggested that student engagement within PBL schools was higher compared to traditional school environments. This research was substantiated by the interview participants within this study. Each of the eight participants reported high levels of student engagement within their respective schools. The participants stated student engagement was higher in their PBL schools and that they felt free to foster meaningful academic relationships with their students. Participant 3 stated that they strongly desired for their students to succeed. Participant 3 reported that developing relationships with students and earnestly desiring their students' success motivated students to perform at higher levels and engage with the materials. Participant 8 stated that their PBL students not only engaged more with the lessons, but also engaged meaningfully with one another. According to Participant 8, PBL students worked more closely and collaboratively, often leading students to interact and engage with students outside of the students' normal social spheres. Additionally, 90% of survey participants indicated that students' behaviors and attitudes influenced the participants' decision to return to the classroom, thus increasing teacher retention.

Catapano and Grey (2015) reported that teachers felt higher levels of job satisfaction when provided with the freedom to choose their own curriculum and learning activities. Of all 31 survey participants, 73.33% indicated that autonomy played an important role in their retention decisions. Autonomy, as an influencing factor, was echoed by the eight interview participants. Participants in this study reported feeling free to try new strategies and to select their own projects, curriculum, and materials. Participants reported enjoying feeling they were not micromanaged by their supervisors. Each of the eight participants linked freedom within their own classrooms to feelings of job fulfillment and satisfaction. Participant 2 stated that PBL schools provided teachers with the license to try new things and completely restructure their class's format, without fear of administrator disapproval. Participant 3 reported that PBL teachers were provided with full autonomy and were regarded by administration as experts in the teaching field. Participant 4 reported being free to try anything, as well as being free to deviate from meeting all state standards.

Jacobson (2019) stated that teacher retention and satisfaction was higher in schools that fostered collaboration among teachers. Collaboration also provided teachers with stronger collegial relationships (Jacobson, 2019) compared to schools that did not provide opportunities for collaboration. According to Jacobson (2019), teachers who had formed strong collegial relationships reported high levels of job satisfaction. Jacobson's findings were echoed by the participants in this study. Of the survey participants, 83.33% indicated that collegial support and camaraderie influenced retention decisions. The eight interview participants each placed a high level of importance upon colleague interactions and collaboration. Participants 3 and 4 cited colleague relationships as a factor strongly influencing the decision to stay. Participant 5 reported that colleague relationships within their PBL school were stronger and more meaningful

than those at a previous traditional school. According to the interviews, collaboration included lesson planning, project development, and working through classroom issues. Participants reported feeling free to ask for help from colleagues due to strong collegial relationships. Additionally, the participants in this study reported finding enjoyment in working with peers on project and curriculum development. According to participants, their PBL schools fostered interdisciplinary projects, as well as interdisciplinary teaching. Participant 8 reported feeling as if they could collaborate and work with anyone, regardless of their content area or role within the school. Project-based learning schools influence teachers' retention decisions by fostering high levels of student engagement, providing freedom and autonomy within classroom and curriculum development, providing opportunities for collaboration among teachers, and fostering positive colleague relationships.

Research Question 2: What factors cause teachers to remain in or depart from project-based learning schools?

Project-based learning schools provide a unique learning and teaching environment when compared to traditional schools. While survey data revealed a list of factors contributing to teacher retention and the decision to stay within PBL schools, only several of those factors were unique to PBL schools. Aragon (2017), Gallant and Riley (2017), and Sutchter, Darling-Hammond, and Carver-Thomas (2016) reported that teachers who experience a lack of autonomy reported high levels of job dissatisfaction. High levels of job dissatisfaction were found to influence attrition decisions (Aragon, 2017; Gallant & Riley, 2017; Sutchter et al., 2016). Renzulli, Macpherson, and Beattie (2011) and Garcia (2016) reported that high levels of teacher autonomy often led to high levels of teacher retention. Project-based learning schools provide

teachers with greater opportunity for autonomy compared to traditional schools (Catapano & Grey, 2015; Craig & Marshall, 2019).

According to interview participants, autonomy contributed to the decision to remain within a PBL school network school, supporting the existing research highlighting autonomy as a retention factor. Of the survey participants, 73.33% reported autonomy as a factor influencing retention decisions. All eight interview participants reported having full classroom autonomy within their PBL school network schools. Participant 3 reported that teachers within their PBL school were given the freedom to choose curriculum, projects, and assessments because teachers were seen as experts needing no supervision. Similarly, Participant 5 reported that teachers had autonomy as long as they could demonstrate that students were learning. Participant 5 also stated that being given autonomy led to feelings of support from administration. When teachers are provided with autonomy, teachers often feel empowered by administration; and, feelings of empowerment lead to job satisfaction, which leads to retention (Renzulli et al., 2011; Garcia, 2016).

According to den Brok, Wubbels, and van Tartwijk (2017) and Sutchter et al. (2016), a lack of student engagement can lead to increased teacher attrition. Sutchter et al. (2016) reported that a lack of student engagement is a contributing factor for teacher job dissatisfaction. Project-based learning schools differ from traditional schools due to higher levels of student engagement (Craig & Marshall, 2019; Martin, 2019). PBL learning requires active student engagement (Tysbulsky & Muchnik-Rozanov, 2019). Of the 31 survey participants, 90% reported students as a factor influencing their decision to stay or leave. All eight interview participants reported positive experiences regarding students within their PBL schools. According to Participant 1, students within their PBL school network school were engaged and active in their own learning

process. Participant 1 reported that students were able to explain concepts in their own words, rather than repeating lessons and textbooks verbatim. Participant 5 reported that students had fun with projects and were able to recognize the impact their project work could have on their community. Additionally, Participant 8 reported that students were not only engaged in the work, but also in interacting with one another. Participant 8 stated that students interacted and engaged with peers they normally would not have in a traditional environment.

According to Darling-Hammond, Hyler, and Gardner (2017), teacher retention can be bolstered through incorporation of teacher collaboration. When teachers were provided with time and resources for collaboration, job satisfaction increased (Darling-Hammond et al., 2017). Jacobson (2019) reported that teachers who have formed strong colleague relationships reported higher levels of job satisfaction compared to teachers who did not, because strong social bonds led to increased social support. Of the survey participants, 83.33% identified collegial support and camaraderie as a factor influencing retention decisions. Each of the eight interview participants identified colleague interactions, or camaraderie, as a factor leading to job satisfaction and retention decisions within their PBL school network schools.

According to Participant 3, camaraderie among peers related strongly to the decision to stay within their PBL school. Participant 3 also reported that the provision of collaborative work time with colleagues had also led to friendships outside of the school, which contributed to the decision to stay. Participant 5 reported feeling that levels of camaraderie and peer support in their PBL school were better than in a traditional school where they worked for seven years. Each of the eight interview participants referenced the forming of collaborative relationships and friendships with colleagues as important to a retention decision.

Collaboration led to increased levels of peer support, according to interview participants. According to Jacobson (2019), collaboration provides social support and opportunities for professional growth. Kutsyuruba (2013) reported that support and peer mentorship combats teacher attrition by increasing job satisfaction. Participants 1 and 2 reported seeking support from peers to gather feedback on project ideas and lessons. Both participants reported feeling comfortable seeking support due to the emphasis their schools placed upon teacher collaboration. Participant 3 reported feeling able to seek peer support without fear of judgement or repercussions due to the school's collaborative nature. Additionally, Participant 8 felt their PBL school's collaborative nature fostered genuine openness among the staff, leading to an increased comfort level with peers and a more positive work environment. Of the 31 survey participants, 80% identified positive work environment as a factor influencing retention decisions.

The last PBL school quality leading to teacher retention was administrative support. Administrative support can be defined as encouragement, communication, and effective operations (Carver-Thomas & Darling-Hammond, 2019). Kutsyuruba (2013) found that increased administrative support can combat high attrition rates. Carver-Thomas and Darling-Hammond (2019) stated that lack of administrative support plays a large role in teacher turnover. Administrative support can be key to teacher job satisfaction and self-efficacy (Reitman & Karge, 2019; Sutchter et al., 2016; Young, 2018).

Interview participants expressed higher levels of administrative support in their PBL schools compared to traditional school environments. Five participants reported feeling comfortable approaching administration with any issues. Participant 2 reported feeling supported as an individual outside of the classroom. According to Participant 2, their administration encouraged and supported teachers as people outside of the classroom and job.

Participant 5 reported experiencing above average levels of administrative support in their PBL school. Participant 5 expressed that administrators in their school encouraged teachers to try new things, deviate from traditional teaching methodologies, and rethink school. Participant 6 reported feeling an above average level of administrative support and expressed that the administration played a large role in their retention decision. Of the participants surveyed, 70% identified administrative support as a factor influencing their retention decisions.

Upon conclusion of coding the interviews, two primary factors causing teachers to depart from PBL schools emerged. Teachers who had left a PBL school reported a lack of clarity and organization within the schools. According to the participants who had left a PBL school, although it is vital that PBL schools allow for autonomy within each teacher's classroom, administrators must work to ensure that roles and expectations are clearly defined. Additionally, participants stated that administrators must ensure all other aspects of the school are organized and clearly structured. While teachers desire the freedom to design their own projects and curriculum, they also desire to know and understand the formal requirements of the role, as well as the clear procedures for specific job-related tasks.

Additionally, a lack of formal observation was reported by all participants as a reason for being dissatisfied within their PBL schools. While the participants stated that teachers desire full autonomy and freedom, participants also reported that teachers desire to know and understand if their classrooms and instruction are effective. Participant 9 stated that they would have benefitted from more observation regarding their pedagogy. Participant 10 stated that they were never given feedback regarding their performance. Based upon the participants' interview responses, teachers in PBL schools expressed a displeasure with the lack of clarity and organization, as well as the lack of formal observations regarding teaching practices. According

to the results of the data analysis for this study, the factors that cause teachers to remain in project-based learning schools are provision of autonomy, high levels of student engagement, teacher collaboration, camaraderie and peer support among teachers, and administrative support; conversely, the factors that cause teachers to leave PBL schools are lack of clarity and organization, as well as lack of formal observations.

Study Limitations

Although the study provided information that revealed factors relating to teacher retention in PBL schools, the study had several limitations. The first limitation of the study was that the study focused solely on teachers within the PBL school network schools. The sample size did not include teachers in PBL schools outside of the PBL school network. The sample was taken entirely from the PBL school network, because it is the largest network of project-based learning schools in the United States.

A second limitation of the study was the age of the PBL school network. The network was launched in 2015, making it only five years old. Additionally, some of the schools within the PBL school network were founded within the last two years at the time of the study's data collection. As a result, the teacher retention information does not reflect the retention data that can be found within other project-based learning schools due to potential differences between PBL school networks.

A third limitation was the number of PBL school network schools. With only 18 total schools within the network, the scope was narrow. However, because the network was the largest in the country, it provided the most readily accessible population. The schools within the network all shared common practices, methodologies, and visions. Therefore, solely studying

the PBL school network schools allowed the researcher to examine retention through a more unified lens with regards to school culture, structure, and routines.

The final limitation of the study was the historical context in which it was conducted. COVID-19 was an active pandemic throughout the duration of the research gathering. As a result, several of the schools within the PBL school network were operating virtually or with a hybrid model. Due to the pandemic, some of the interviewed teachers had little to no face-to-face interaction with their students. This lack of face-to-face interaction with students impacted the ways in which some of the participants may have responded. The limitations of the study did not compromise the integrity or validity of the study.

Implications for Future Practice

The purpose of the study was to determine a list of best practices for bolstering teacher retention. The results of the data analysis from the survey portion of the study suggested that teachers within PBL schools were influenced by the intellectual challenge of the teaching profession, collegial support and camaraderie among peers, positive work environment, love of students, love of subject area, job security, success in the profession, and contributions to others. The results from the interview portion of the study suggested that teachers within PBL schools were influenced by colleague relationships, support from school administrators, positive student interactions, autonomy, and intrinsic motivation. Survey and interview results, therefore, can be grouped into six primary retention influencers: colleague relationships, work environment, positive student interactions, intrinsic motivation, benefits, and autonomy.

In order to bolster teacher retention, school administrators and those with the power to positively influence retention should work to implement the resulting themes from the data analysis of this study. First, administrators should work to foster an environment in which

collegial relationships and collaboration can thrive. When teachers feel camaraderie and the freedom to support one another, job satisfaction can thrive (Jacobson, 2019). Additionally, the provision of collaborative work time for teachers can also increase retention. School administrators can allot time during planning periods for collaboration, as well as provide professional development days to allow teachers to collaborate, plan cross-curricular lessons, and provide feedback to one another.

Schools seeking to increase teacher retention should also provide teachers with autonomy within their classrooms. Survey and interview data, as well as existing research, showed that teachers who feel empowered and trusted experience higher levels of job satisfaction than peers without classroom autonomy. Catapano and Grey (2015) found that teacher autonomy led to increased job satisfaction, which can lead to increased school teacher retention rates. Interview data from this study revealed that teachers felt empowered by administrators when they were given full autonomy. Teachers felt trusted as experts within their content areas. When teachers are empowered and given freedom, job satisfaction and retention increase.

Another step that school administrators can take to increase teacher retention is to provide high levels of administrative support. Administrators should first remain encouraging of teachers as they design their own practices, methods, and content. When teachers feel empowered and encouraged, satisfaction can increase. Additionally, administrators should ensure communication is both clear and timely. Teachers need to understand what is expected of them, as well as how to ensure expectations are met. Last, administrators can provide support by ensuring the school operates effectively.

According to the results of the data analysis of this study, the final step administrators can take is to foster high levels of student engagement. Student engagement increased when teachers

provided high-quality, interactive instruction, a hallmark of PBL learning. When students were engaged, teachers were more motivated and found themselves more driven within their own roles. Administrators can increase student engagement by providing teachers with autonomy, collaborative work time, and support.

Recommendations for Future Research

This study utilized a mixed-methods design to determine a list of teacher retention practices in a PBL school network. Future studies could broaden the scope of this study and expand to other PBL school networks and schools that have been in existence for longer periods of time compared to the PBL school network in this study. The PBL schools within this network are all similar in design and values. The differences between the PBL school network and other PBL schools may be distinct. Comparisons between the PBL school network schools and other schools could provide additional information into teacher retention factors in PBL schools.

Future studies could also examine the quantitative differences in teacher retention between traditional and PBL school environments. This study examined retention factors in PBL schools alone. Although many of the factors increasing retention were unique to PBL schools, a more thorough examination of retention rates may provide additional insight into teacher retention across school environments.

Another recommendation for a future study would be to specifically examine the implementation of retention bolstering practices within traditional school environments. The study could seek to determine if factors, such as teacher collaboration and increased autonomy, improved teacher retention within traditional school environments, as well as PBL school environments.

A final recommendation for a future study would be for researchers to examine teacher retention in private school environments compared to PBL school environments because commonalities in practice may exist between the two environments. Additionally, an examination into private school teacher retention may provide additional insight into factors unique to private school environments that can both increase and decrease teacher retention in other school environments.

Conclusion

Schools across the United States continue to face high rates of teacher attrition and teacher shortages (Borman & Dowling, 2008; Brown & Wynn, 2009; Kelchtermans, 2017; Roegman et al., 2017). Administrators find themselves struggling to fill vacant teaching positions and retain newly hired and existing teachers. When schools experience high rates of teacher attrition, the effects are felt in many areas. Attrition can lead to increased financial burdens (Borman & Dowling, 2008; Brown & Wynn, 2009; Harris et al., 2019), decreased student engagement and achievement (Brown & Wynn, 2009; Cross, 2017; Shaw & Newton, 2014), inability to build consistent school culture and expectations (Kelchtermans, 2017; Matteucci et al., 2017), and administrator stress (Roegman et al., 2017).

Attrition can be caused by low compensation, lack of administrative support, lack of professional development, lack of student engagement, and lack of autonomy (Carver-Thomas & Darling-Hammond, 2019; den Brok et al., 2017). Research regarding methods for increasing retention within traditional school environments proposes the provision of competitive salaries, mentorship opportunities, professional development, and administrative support (Reitman & Karge, 2019; Sutchter et al., 2016; Young, 2018). Although research has been conducted to

determine factors that can increase retention, no research prior to this study had been conducted to examine factors influencing retention in project-based learning schools.

Project-based learning (PBL) schools utilize a collaborative, problem-based methodology for instruction (Tysbulsky & Muchnik-Rozanov, 2019; Virtue & Hinnant-Crawford, 2019). Teachers work alongside students and promote self-guided learning, rather than acting as a dispenser of knowledge (Gomez-Pablos et al., 2016; Hursen, 2018). Research has shown that teachers within PBL schools reported a preference for PBL methodologies over traditional methodologies (Habok & Nagy, 2016). Additionally, Lattimer and Riordan (2011) found PBL to be more effective in teaching content mastery compared to traditional school methodologies.

Teachers in project-based learning schools reported higher levels of self-efficacy, which led to high levels of job satisfaction (Choi et al., 2019). The results of this study led to the development of a list of specific factors within PBL schools that contributed to teachers' decisions to remain in their teaching positions. The factors could easily be generalized to non-PBL school environments. Overall, evidence presented in this study suggested that teacher retention can be increased through providing teachers autonomy, opportunities for collaboration and peer relationship building, and administrative support. When teachers are provided with autonomy, opportunities for collaboration and peer relationship building, and administrative support, feelings of empowerment and job satisfaction increase, thus leading to an increased tendency to stay within a teaching position.

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APPENDICES

Appendix A

Email Invitation to Participants

Dear Invitee,

I am a doctoral student in Southeastern University's EdD program. I am kindly requesting your participation in a doctoral research study that I am conducting titled: Teacher Retention in Project-based Learning Schools. The intention is to assess teacher retention within the XQ School network.

The study involves completing basic demographic information, surveys, and interviews.

Participation is completely voluntary, and you may withdraw from the study at any time. The study is completely anonymous; therefore, it does not require you to provide your name or any other identifying information.

If you would like to participate in the study, please read the Informed Consent letter below.

Your participation in the research will be of great importance to assist in ascertaining best practices in teacher retention.

Thank you for your time and participation

Sincerely,

Camille Bielling, M.Ed, Doctoral Student, Southeastern University

Principal Investigator and Dissertation Chairperson: Dr. Amy Bratten, Southeastern University

Appendix B

Consent to be Interviewed

PROJECT TITLE: A QUALITATIVE STUDY OF TEACHER RETENTION IN PROJECT-BASED LEARNING SCHOOLS

INVESTIGATOR:

Primary Investigator: Amy Bratten

Student Investigator: Elizabeth C. Bielling

PURPOSE

The purpose of the study is to examine teacher retention rates and practices in XQ project-based learning (PBL) schools.

PROCEDURES

The researcher will contact you to schedule an interview by phone, virtual meeting, or in person. The interview will be recorded, transcribed, and returned to you for validation. The interview will consist of approximately six to twenty-three questions, dependent upon your role, with possible follow-up questions. The interview will not take more than thirty minutes of your time.

RISKS OF PARTICIPATION

There are no known risks to participation in this study. You will not be personally identified in any reports or publications. In addition, any references to your specific school will be coded so that individuals and schools cannot be identified.

BENEFITS TO PARTICIPATION

Your participation will add to an understanding of how project-based learning schools in the XQ network differ in teacher retention, as well as best practices that foster retention. Data gathered will be informative for other schools to foster higher teacher retention.

CONFIDENTIALITY

The audio-recordings, transcripts, and notes of this interview will be made available only to the student researcher, primary investigator, and the dissertation committee's methodologist. Written results will not include information that could identify you. Raw recordings and transcriptions will be stored on a password-protected computer and backed up on a USB drive stored in a locked filing cabinet. Only researchers and individuals responsible for research oversight will have access to the records. Recordings and transcriptions will be destroyed five years after the study has been completed.

CONTACTS

You may contact the researchers should you desire to discuss your participation in the study: Camille Bielling: ecbielling@seu.edu, 901-598-7513, or Dr. Amy Bratten: anbratten@seu.edu.

PARTICIPANT RIGHTS

I understand my participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time without penalty.

CONSENT DOCUMENTATION

I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be given to me. I affirm that I am 18 years old or older. I hereby give my permission for my participation in this study.

Signature of Participant

Date

Printed Name of Participant

Date

I certify that I have personally explained this document before requesting that the participant sign it.

Signature of Researcher

Date

Appendix C

Godwin Teacher Retention Survey

Godwin Teacher Retention Survey

• *The focus of this survey is to determine why male teachers choose to stay in the profession.*

Please complete the demographic information.

Years in Teaching (check the range)

- | | | |
|----|-------|-------|
| 1. | 3-5 | _____ |
| 2. | 6-9 | _____ |
| 3. | 10-14 | _____ |
| 4. | 15-19 | _____ |
| 5. | 20-24 | _____ |
| 6. | 25-29 | _____ |
| 7. | 30+ | _____ |

- Ethnicity:**
- | | |
|------------------|-------|
| African-American | _____ |
| Caucasian | _____ |
| Hispanic | _____ |
| Native American | _____ |
| Other | _____ |

National Board Certified: Yes No

Degree Status

School Setting

- County**
- | | |
|------------|-------|
| Cumberland | _____ |
| Robeson | _____ |
| Bladen | _____ |
| Sampson | _____ |
| Johnston | _____ |
| Harnett | _____ |
| Hoke | _____ |
| Moore | _____ |

- | | | | |
|------------|-------|----------|-------|
| Bachelor's | _____ | Urban | _____ |
| Master's | _____ | Suburban | _____ |
| Doctorate | _____ | Rural | _____ |

- Licensure**
- Area of licensure: _____
- Grade level teaching: _____
- Subject teaching: _____

Directions: Please consider each item. Indicate if the item will influence or has influenced your decision to remain in teaching. Circle your appropriate response:

(1) Strongly Disagree, (2) Disagree, (3) Agree, (4) Strongly Agree, (0) Uncertain

	SD	D	A	SA	U
1. Respect for the profession.....	1	2	3	4	0
2. Summers off / Sessions off.....	1	2	3	4	0
3. Intellectual challenge of the profession	1	2	3	4	0
4. Salary.....	1	2	3	4	0
5. Collegial support/camaraderie among peers.....	1	2	3	4	0
6. State salary schedule (yearly steps).....	1	2	3	4	0

Circle your appropriate response: (1) Strongly Disagree, (2) Disagree, (3) Agree, (4) Strongly Agree, (0) Uncertain

	SD	D	A	SA	U
7. Recognition among peers, administration, and school community for a job well done.....1	2	3	4	0	
8. Additional salary increases approved by the General Assembly.....1	2	3	4	0	
9. Administrative support.....1	2	3	4	0	
10. Holidays/Leave days.....1	2	3	4	0	
11. Parental support/involvement and back of teacher decisions.....1	2	3	4	0	
12. Insurance plan.....1	2	3	4	0	
13. Positive work environment.....1	2	3	4	0	
14. Health benefits.....1	2	3	4	0	
15. Professional position.....1	2	3	4	0	
16. Retirement plan.....1	2	3	4	0	
17. Leadership opportunities in my school.....1	2	3	4	0	
18. Tenure.....1	2	3	4	0	
19. Professional growth opportunities.....1	2	3	4	0	
20. Longevity pay.....1	2	3	4	0	
21. Love of children.....1	2	3	4	0	
22. ABC Incentive Pay.....1	2	3	4	0	
23. Love of subject area.....1	2	3	4	0	
24. National Board Licensure Pay Increase.....1	2	3	4	0	
25. Teacher autonomy in classroom setting.....1	2	3	4	0	
26. Job security.....1	2	3	4	0	
27. Success in my profession.....1	2	3	4	0	
103					
28. Contributions to others.....1	2	3	4	0	
29. Close proximity to home and family.....1	2	3	4	0	
30. Too late to change careers.....1	2	3	4	0	
31. Comfortable with local community/no desire to move.....1	2	3	4	0	

Appendix D

Interview Protocol: Interview questions for teachers taken from Glazer (2018) and Zhang and Zeller (2016)

Interviewer: E. Camille Bielling

Date:

Time:

Location:

Name of interviewee:

Interview Questions

1. What school level do you teach (elementary, middle, or high school)?
2. Has teaching been what you expected? Why? Why not?
3. What type of teacher preparation have you had?
4. Are you certified by the state?
5. How did you come to teach at this school?
6. Can you describe the support you have received as a teacher within this school?
7. Do you feel sufficiently prepared to teach in the way that you are expected to teach here?
8. Do you seek information or advice about what and how to teach?
9. What is it like to teach here?
10. How long have you been a teacher?
11. When and where have you taught?
12. Tell me about your decision to become a teacher. What motivated you? What did you expect?
13. What kinds of preparation did you undergo before you began teaching?

14. What kinds of training did you receive while you were teaching?
15. How did your early teaching experiences compare to your expectations?
16. After your first year of teaching, did you remain in the same school? Tell me about that.
17. How has your experience in this XQ school compared to your expectations?
18. What are your relationships like with colleagues?
19. Can you describe a particularly difficult colleague? A particularly helpful colleague?
20. How often did you see other teachers teach? How often were you observed?
21. How would you know if you were successful as a teacher?
22. What have you enjoyed most about the job? The least? What about in your former teaching jobs?
23. What were your biggest challenges in your former teaching positions?

Appendix E

Interview Protocol: School Administrator Interview Protocol from Knight (2012)

Interviewer: E. Camille Bielling

Date:

Time:

Location:

Name of interviewee:

Questions

1. What procedure or a strategy that was implemented by your school administration, you believe made an impact on teacher satisfaction and/or teacher retention?
2. What was the procedure/strategy and explain why do you believe it made an impact on teacher satisfaction and/teacher retention?
3. Does your school have a high, moderate, or low teacher retention rate, and do you think administration has contributed to that retention rate? Why?
4. Can you please rank these three areas of concern from greatest to least important for teacher retaining teachers and explain why you place them in that ranking order?

Administrative support

Staff development

Collaboration among teachers and staff

5. As an administrator, how do you support your teachers, and how do you think that support might have influenced teachers to continue working at your school?

6. What type of staff development have you received that has assisted you in retaining teacher?
And how important do you think it is for administrators to receive staff development on teacher retention and why?
7. What types of behaviors do you think administrators should exhibit that would positively impact teacher retention?

Appendix F

Interview Protocol: Interview questions for teachers who have left PBL school network schools adapted from Glazer (2018)

Interviewer: E. Camille Bielling

Date:

Time:

Location:

Name of interviewee:

Interview Questions

1. How long were you a teacher at a PBL school network school?
2. When and where did you teach?
3. What kinds of training did you receive while you were teaching?
4. How did your early experience at your school compare to your expectations?
5. After your first year, did you remain in the same school? Tell me about that.
6. Tell me about a time when you felt successful as an XQ teacher?
7. What were your relationships like with colleagues?
8. How often did you see other teachers teach? How often were you observed?
9. How would you know if you were successful as a teacher?
10. What did you enjoy most about the job? The least?
11. What were your biggest challenges?
12. When did you begin to think about leaving the school? What prompted you to think about leaving?

13. What would have needed to change for you to stay in the classroom? Why do you think this didn't happen?
14. Have you ever thought about returning to an XQ classroom? Tell me about that.
15. What would you say to someone who asks you about going into teaching at an XQ school?